Permit Conditions
Continental Waste Industries Arizona, Inc.
Gila Bend Regional Landfill
Permit Number V97003
May 4, 1998

In accordance with Maricopa County Air Pollution Control Rules and Regulations (Rules), Rule 210 § 302.2, all Conditions of this Permit which reference federal requirements including the Clean Air Act (CAA), the Code of Federal Regulations (CFR), Rules contained in the State Implementation Plan (SIP Rules), or are specifically identified as being federally enforceable are federally enforceable. In addition, any condition which limits a source's potential to emit to avoid federally applicable requirements is federally enforceable as are all applicable testing, monitoring, reporting and recordkeeping requirements resulting from federally enforceable requirements [40 CFR 70.6(b)(1) & (c)(1)].

Permit conditions identified as being based solely on the Maricopa County Air Pollution Control Rules and Regulations (County Rules) are locally enforceable only. However, if an applicable County Rule is adopted into the SIP during the term of this Permit, any Permit Conditions based upon that County Rule become federally enforceable.

All federally enforceable terms and conditions of this Permit are enforceable by the Administrator of the United States Environmental Protection Agency (USEPA) and citizens under the CAA. [40 CFR 70.6 (b) (1)]

Any cited regulatory paragraphs or section numbers refer to the version of the regulation that was in effect on the date of issuance of the applicable Permit Condition.

GENERAL CONDITIONS:

1. **AIR POLLUTION PROHIBITED:** [County Rule 100 §301] [SIP Rule 3]
   No person shall discharge from any source whatever into the atmosphere regulated air pollutants which exceed in quantity or concentration that specified and allowed in the County or SIP Rules, the Arizona Administrative Code (AAC) or the Arizona Revised Statutes (ARS), or which cause damage to property or unreasonably interfere with the comfortable enjoyment of life or property of a substantial part of a community, or obscure visibility, or

which in any way degrade the quality of the ambient air below the standards established by the Maricopa County Board of Supervisors or the Director of the Arizona Department of Environmental Quality (ADEQ).

2. CIRCUMVENTION: [County Rule 100 §104] [40 CFR 60.12] [40 CFR 63.4]

A person shall not build, erect, install, or use any article, machine, equipment, condition, or any contrivance, the use of which, without resulting in a reduction in the total release of air contaminants to the atmosphere, conceals or dilutes an emission which would otherwise constitute a violation of this Permit or any emission limitation or standard. No person shall circumvent the requirements concerning dilution of air contaminants by using more emission openings than is considered normal practice by the industry or activity in question.

3. CERTIFICATION OF TRUTH, ACCURACY, AND COMPLETENESS:

[County Rule 210 §§301.7 & 305.1e] [40 CFR 70.5(d); 40 CFR 70.6 (a)(3)(iii)(A) & (c)]

Any application form, report, or compliance certification submitted pursuant to the County Rules or these Permit Conditions shall contain certification by a responsible official of truth, accuracy, and completeness of the application as of the time of submittal. This certification and any other certification required pursuant to the County Rules or these Permit Conditions shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

4. COMPLIANCE:

COMPLIANCE REQUIRED:

A. The Permittee must comply with all conditions of this permit and with all applicable requirements of Federal laws, Arizona laws, and the County Rules. Any permit non-compliance is grounds for enforcement action; for a permit revocation and reissuance, or revision; or for denial of a permit renewal application. [County Rule 210 §§301.8 b 4 & 302.1h] [40 CFR 70.6 (a)(6)(i)]

B. The Permittee shall halt or reduce the permitted activity in order to maintain compliance with applicable requirements of Federal laws, Arizona laws, the County Rules, or other conditions of this Permit. [County Rule 210 §302.1h] [40 CFR 70.6 (a)(6)(ii)]

C. For any major source operating in a nonattainment area for any pollutant(s) for which the source is classified as a major source, the source shall comply with reasonably available control technology (RACT) as defined in County Rule 100. [County Rule 210 §302.1(h)(6)] [SIP Rule 220 §302.1]

If the source is existing and the Maricopa County Air Pollution Control Officer (Control Officer) determines that the source is subject to the RACT requirements of this paragraph, the Permittee will be required to submit a control plan demonstrating RACT in accordance with SIP Rule 220 §404. [SIP Rule 220 §404]

COMPLIANCE CERTIFICATION REQUIREMENTS:
[County Rule 210 §305.1 d] [40 CFR 70.6(c)(5)]
The Permittee shall file an annual compliance certification with the Control Officer and also with the Administrator of the USEPA. The report shall certify compliance with the terms and conditions contained in this Permit, including emission limitations, standards, or work practices. The certification shall be on a form supplied or approved by the Control Officer and shall include each of the following:

A. The identification of each term or condition of the permit that is the basis of the certification;
B. The compliance status;
C. Whether compliance was continuous or intermittent;
D. The method(s) used for determining the compliance status of the source, currently and over the reporting period; and
E. Other facts as the Control Officer may require to determine the compliance status of the source.

The first certification shall be filed no later than 30 days after the first anniversary of the issuance of this Permit and additional certifications shall be filed annually thereafter. The due date for the subsequent annual filings shall be within 30 calander days of the anniversary date of the first certification filing.

COMPLIANCE PLAN:
[County Rule 210 §305.1g] [40 CFR 70.5(c)(8] [40 CFR 70.6(c)(3)]
Based on the certified information contained in the application for this Permit, the facility is in compliance with all applicable requirements in effect as of the release date of the proposed conditions for this Permit. The Permittee shall continue to comply with all applicable requirements and shall meet any applicable requirements that may become effective during the term of this permit on a timely basis.

5. CONFIDENTIALITY CLAIMS [County Rules 100 §§507.3&4,200 §411, and 210 §301.5]

Any records, reports or information obtained from any person pursuant to the County Rules or this Permit, including records, reports or information obtained or prepared by the Control Officer or a county employee, shall be available to the public, except that the information or any part of the information shall be considered confidential on either of the following:

A. A showing, satisfactory to the Control Officer, by any person that the information or a part of the information if made public would divulge the trade secrets of the person. A notice of confidentiality pursuant to ARS 49-487(c) shall:
   1) Precisely identify the information in the application documents which is considered confidential.
   2) Contain sufficient supporting information to allow the Control Officer to evaluate whether such information satisfies the requirements related to trade secrets or, if applicable, how the information, if disclosed, could cause substantial harm to the person's competitive position.

B. A determination by the Maricopa County Attorney that disclosure of the information or a particular part of the information would be detrimental to an ongoing criminal investigation or to an ongoing or contemplated civil enforcement action pursuant to the County Rules in Superior Court.

Notwithstanding any claim of confidentiality, the following information shall be available to the public:

A. The name and address of any permit applicant or Permittee.
B. The chemical constituents, concentrations and amounts of any emission of any air contaminant.
C. The existence or level of a concentration of an air pollutant in the environment.

A claim of confidentiality shall not excuse a person from providing any and all information required or requested by the Control Officer and shall not be a defense for failure to provide such information.

A source that has submitted information with an application under a claim of confidentiality pursuant to ARS 49-487 and County Rule 200 shall submit a copy of such information directly to the Administrator of the USEPA.

6. CONTINGENT REQUIREMENTS:

NOTE: This Permit Condition covers activities and processes addressed by the Clean Air Act which may or may not be present at the facility. This condition is intended to meet the requirements of both Section 504(a) of the 1990 Amendments to the CAA which requires that Title V permits contain conditions

necessary to assure compliance with applicable requirements of the Act as well as the Acid Rain provisions required to be in all Title V permits.

A. ACID RAIN: [County Rule 210 §§302.1b(2) & 302.1f]
[40 CFR 70.6 (a)(1)(i) & (a)(4)]

1). Where an applicable requirement of the Act is more stringent than an applicable requirement of regulations promulgated pursuant to Title IV of the CAA and incorporated pursuant to County Rule 371, both provisions shall be incorporated into this Permit and shall be enforceable by the Administrator. [40 CFR 70.6 (a)(1)(ii)]

2) The Permittee shall not allow emissions exceeding any allowances that the source lawfully holds pursuant to Title IV of the CAA or the regulations promulgated thereunder and incorporated pursuant to County Rule 371.

a) No permit revision shall be required for increases in emissions that are authorized by allowances acquired pursuant to the acid rain program and incorporated pursuant to County Rule 371, provided that such increases do not require a permit revision pursuant to any other applicable requirement.

b) No limit is placed on the number of allowances held by the Permittee. The Permittee may not, however, use allowances as a defense to non-compliance with any other applicable requirement.

c) Any such allowance shall be accounted for according to the procedures established in regulations promulgated pursuant to Title IV of the CAA.

d) All of the following prohibitions apply to any unit subject to the provisions of Title IV of the CAA and incorporated into this Permit pursuant to County Rule 371:

(1) Annual emissions of sulfur dioxide in excess of the number of allowances to emit sulfur dioxide held by the owners or operators of the unit or the designated representative of the owners or operators.

(2) Exceedances of applicable emission rates.

(3) The use of any allowance prior to the year for which it was allocated.

(4) Violation of any other provision of the permit.

B. ASBESTOS: The Permittee shall comply with the applicable requirements of Sections 61.145 through 61.147 of the National Emission Standard for Asbestos and County Rule 370 for all demolition and renovation projects. [40 CFR 61, Subpart M] [County Rule 370]

C. RISK MANAGEMENT PLAN (RMP): Should this stationary source, as defined in 40 CFR 68.3, be subject to the accidental release prevention regulations in Part 68, then the Permittee shall submit an RMP by the date specified in Section 68.10 and shall certify compliance with the requirements of Part 68 as part of the annual compliance certification as required by 40 CFR Part 70. However, neither the RMP nor modifications to the RMP shall be considered to be a part of this Permit. [40 CFR 68]

D. STRATOSPHERIC OZONE PROTECTION: [40 CFR 82 Subpart F]

If applicable, the Permittee shall comply with all of the following requirements:

1) Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to 40 CFR 82.156.
2) Equipment used during maintenance, service, repair, or disposal of appliances must meet the standards for recycling and recovery equipment in accordance with 40 CFR 82.158.
3) Persons performing maintenance, service, repair, or disposal of appliances must be certified by a certified technician pursuant to 40 CFR 82.161.

7. DUTY TO SUPPLEMENT OR CORRECT APPLICATION:

Any applicant who fails to submit any relevant facts or who has submitted incorrect information in a permit application shall, upon becoming aware of such failure or incorrect submittal, promptly submit such supplementary facts or corrected information. In addition, an applicant shall provide additional information as necessary to address any requirements that become applicable to the source after the date it filed a complete application but prior to release of a proposed permit. [County Rule 210 §301.6] [40 CFR 70.5(b)]

The Control Officer may with reasonable cause require the applicant to provide additional information. [SIP Rule 220 §403]

8. EMERGENCY EPISODES: [County Rule 600] [SIP Rule 72 e, f & g]

If an air pollution alert, warning, or emergency has been declared, the Permittee shall comply with any applicable requirements of County Rule 600 §302

9. EMERGENCY PROVISIONS: [County Rule 100 §501] [40 CFR 70.6(g)]

An "emergency" means any situation arising from sudden and reasonably unforeseeable events beyond the control of the source, including acts of God, which situation requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under this permit, due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include noncompliance to the extent caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.

An emergency constitutes an affirmative defense to an action brought for noncompliance with such technology-based emission limitations if the requirements of this Permit Condition are met.

The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:

A. An emergency occurred and that the Permittee can identify the cause(s) of the emergency;
B. The permitted source was at the time being properly operated;
C. During the period of the emergency the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emissions standards or other requirements in the permit; and
D. The Permittee as soon as possible telephoned the Control Officer giving notice of the emergency and submitted notice of the emergency to the Control Officer by certified mail or hand delivery within two working days of the time when emission limitations were exceeded due to the emergency. This notice fulfills the requirement of County Rule 210. This notice shall contain a description of the emergency, any steps taken to mitigate emissions, and corrective action taken.

In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.

This provision is in addition to any emergency or upset provision contained in any applicable requirement.

However, it shall not be a defense for a Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Permit. [County Rule 210§302.1h] [40 CFR 70.6(a)(6)(ii)]

10. EXCESS EMISSIONS: [County Rule 100 §502}

NOTE: This Permit Condition applies only to Permit Conditions or other requirements that are based solely on County Rules (ie have no federal enforceability) and is only applicable to and enforceable by the Division.

A. Emissions in excess of an applicable emission limitation contained in the Rules or in these Permit Conditions shall constitute a violation. For all situations that constitute an emergency as described in Rule 100 §501, the affirmative defense and reporting requirements contained in Rule 100 §501 shall apply. In all other circumstances, it shall be an affirmative defense if the owner or operator of the source has complied with the reporting requirements of Rule 100 §502.3 and these Permit Conditions in a timely manner and has demonstrated all of the following:

1) The excess emissions resulted from a sudden and unavoidable breakdown of the process or the control equipment, resulted from unavoidable conditions during startup or shutdown, resulted from unavoidable conditions during an upset of operations, or that greater or more extended excess emissions would result unless scheduled maintenance is performed;
2) The air pollution control equipment, process equipment, or processes were at all times maintained and operated in a manner consistent with good practice for minimizing emissions;
3) Where repairs were required, such repairs were made in an expeditious fashion when the applicable emission limitations were being exceeded and off-shift labor and overtime were utilized where practical to insure that such repairs were made as expeditiously as possible. If off-shift labor and overtime were not utilized, the owner or operator satisfactorily demonstrated that such measures were impractical;
4) The amount and duration of the excess emissions (including any bypass operation) were minimized to the maximum extent practicable during periods of such emissions;
5) All feasible steps were taken to minimize the impact of the excess emissions on potential violations of ambient air quality standards;
6) The excess emissions were not part of a recurring pattern indicative of inadequate design, operation, or maintenance; and
7) During the period of excess emissions, there were no measured violations of the ambient air quality standards established in Rule 510 which could be attributed to the emitting source.

B. It shall be the burden of the owner or operator of the source to demonstrate, through submission of the data and information required by Rule 100 §502 and these Permit Conditions that all reasonable and practicable measures within the owner or operator's control were implemented to prevent the occurrence of excess emissions.

11. FEES: [County Rules 200 §409; 210 §302.1i; 210 §401] [40 CFR 70.6(a)(7) & 40 CFR 70.9(a)]
The Permittee shall pay fees to the Control Officer pursuant to ARS 49-480(D) and County Rule 280.

12. MODELING: [County Rule 200 §407] [SIP Rules 26 & 220 §403]
Where the Control Officer requires a person to perform air quality impact modeling, the modeling shall be performed in a manner consistent with the "Guideline on Air Quality Models (Revised)" (EPA-450/2-78-027R, U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards, Research Triangle Park, N.C. 27711, July 1986) and "Supplement B to the Guideline on Air Quality Models" (U.S. Environmental Protection Agency, September 1990). Both documents shall be referred to hereinafter as "Guideline", and are adopted by reference. Where the person requesting a permit can demonstrate that an air quality impact model specified in the guideline is inappropriate, the model may be modified or another model substituted if found to be acceptable to the Control Officer.

13. MONITORING / TESTING:
The Permittee shall monitor, sample, or perform other studies to quantify emissions of regulated air pollutants or levels of air pollution that may reasonably be attributable to the facility if required to do so by the Control Officer, either by Permit or by order. [County Rule 200 §309] [SIP Rule 220 §403]

The owner, lessee, or operator of a potential air contaminate source shall provide, install and maintain such air contaminate monitoring devices as are reasonable and are required to determine compliance in a manner acceptable to the Control Officer. [SIP Rule 41]

Except as otherwise specified in these Permit Conditions or by the Control Officer, required testing used to determine compliance with standards or permit conditions established pursuant to the County or SIP Rules or these Permit Conditions shall be conducted in accordance with County Rule 270 and the applicable testing procedures contained in the Arizona Testing Manual for Air Pollutant Emissions [County Rule 200 §408 & County Rule 270] [SIP Rules 25 & 27] or other approved USEPA test methods.

The owner or operator of a permitted source shall provide, or cause to be provided, performance testing facilities as follows:

A. Sampling ports adequate for test methods applicable to such source.
B. Safe sampling platform(s).
C. Safe access to sampling platforms(s).
D. Utilities for sampling and testing equipment.
[County Rule 270 §405] [SIP Rule 42]

14. PERMITS:

BASIC: [40 CFR 70.6(a)(6)(iii)]
This Permit may be modified, revoked, reopened and reissued, or terminated for cause. The filing of a request by the Permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any Permit Condition.

PERMITS AND PERMIT CHANGES, AMENDMENTS AND REVISIONS:
[County Rule 200 §§301 & 308],[(County Rule 210 §400] [40 CFR 70.5(a)(ii)]
Except as otherwise provided in the County Rules, the Permittee shall not commence construction of, operate, or make a modification to any source subject to regulation under County Rule 200, without first obtaining a permit revision from the Control Officer. The Permittee shall follow the Administrative Requirements of Section 400 of County Rule 210 for all Permit changes, amendments and revisions. All applications shall be filed in the manner and form prescribed by the Control Officer. The application shall contain all the information necessary to enable the Control Officer to make the determination to grant or to deny a permit revision. [40 CFR 70.5(c); 40 CFR 70.7(d) & (e)] [SIP Rule 23]

The Permittee shall supply a complete copy of each application for a permit, permit change, amendment or revision directly to the Administrator of the USEPA. The Control Officer may require the application information to be submitted in a computer-readable format compatible with the Administrator's national database management system. [County Rule 210 §303] [40 CFR 70.8(a)]

The Control Officer may with reasonable cause require the applicant to provide additional information. [SIP Rule 220 §403 & SIP Rule 21]

No permit revision shall be required pursuant to any approved economic incentives, marketable permits, emissions trading and other similar programs or processes for changes that are provided for in the permit. [County Rule 210 §302.1j]

POSTING:
Any person who has been granted a permit shall keep a complete permit clearly visible and accessible on the site where the equipment is installed. [County Rule 200 §311] [SIP Rule 22F]

If a Dust Control Plan, as required by Rule 310, has been approved as a part of this Permit, a copy of the latest approved Dust Control Plan must be posted in a conspicuous site at the worksite, within on-site equipment, in an on-site vehicle, or otherwise kept readily available on site at all times. [County Rule 310 §402] [SIP Rule 310 §402]

PROHIBITION ON PERMIT MODIFICATION: [County Rule 200 §310]
A person shall not willfully deface, alter, forge, counterfeit, or falsify this permit.

RENEWAL: [County Rule 210 §§ 301 & 302]
The Permittee shall submit an application for the renewal of this Permit in a timely and complete manner. For purposes of permit renewal, a timely application is one that is submitted at least six months, but not more than 18 months, prior to the date of permit expiration. A complete application shall contain all of the information required by the County Rules. [40 CFR 70.5(a)(1)(iii) & (c)]

All permit applications shall be filed in the manner and form prescribed by the Control Officer. To apply for a permit renewal, applicants shall complete the "Standard Permit Application Form" and shall supply all information necessary to enable the Control Officer to make the determination to grant or to deny a permit or permit revision which shall contain such terms and conditions as the Control Officer deems necessary to assure a source's compliance with the requirements of the County Rules including the information required by the "Filing Instructions" as shown in Appendix B of the County Rules. [40 CFR 70.5(c)]

The Control Officer may with reasonable cause require the applicant to provide additional information. [SIP Rules 220 §403 & 21]

REVISION / REOPENING / REVOCATION:

A. This permit shall be reopened and revised to incorporate additional applicable requirements adopted by the Administrator pursuant to the CAA that become applicable to the facility and this permit has a remaining permit term of three or more years. No revision shall be required if the effective date of the applicable requirements is after the expiration of the permit unless the origional permit or any of its terms have been extended

pursuant to Rule 200 §403.2 or 40CFR 70.4(b)(10)(i) or (ii). [County Rules 200 §402.1] [40 CFR 70.7(f)]

Any permit revision required pursuant to this paragraph shall reopen the entire permit, shall comply with provisions in County Rule 200 for permit renewal *(Note: this include a facility wide application and public comment on the entire permit)* and shall reset the five year permit term. [County Rules 200 §402.1 & 210 §302.5, is locally enforceable only, and would apply if the Permit is reopened and revised under this paragraph by the Control Officer.]

Proceedings to reopen and issue a permit shall follow the same procedures as apply to initial permit issuance and shall effect only those parts of the Permit for which cause to reopen exists. [40CFR 70.7(f)(2) and would apply if the Permit is reopened and revised under this paragraph by the Administrator]

B. This permit shall be reopened and revised under any of the following circumstances:

1) Additional requirements, including excess emissions requirements, become applicable to an affected source under the acid rain program. Upon approval by the Administrator, excess emissions offset plans shall be deemed to be incorporated into the Title V permit. [County Rule 200 §402.1] [40 CFR 70.7(f)]
2) The Control Officer or the Administrator determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit. [County Rule 200 §402.1] [40 CFR 70.7(f)]
3) The Control Officer or the Administrator determines that the permit must be revised or revoked to assure compliance with the applicable requirements. [County Rule 200 §402.1] [40 CFR 70.7(f)]

Proceedings to reopen and issue a permit shall follow the same procedures as apply to initial permit issuance and shall effect only those parts of the Permit for which cause to reopen exists. . [County Rules 200 §402.1 & 210 §302.5] [R18-2-321A2] [40CFR 70.7(f)(2)]

C. In addition, this permit may be reopened by the Control Officer and any permit shield revised, when it is determined that standards or conditions in the permit are based on incorrect information provided by the applicant. [County Rule 210 §407.3]

D. This Permit may be revised or revoked for cause. [County Rule 210 §302.1h]

E. The Control Officer may revoke this Permit if he determines, by competent evidence, that the nature, extent, quantity, or degree of air contaminates discharged into the atmosphere from any equipment covered by this

Permit is in violation of the County and SIP Rules. Upon revocation, an operating permit shall be issued only on the basis of an application for a new permit. [SIP Rule 22G1]

F. Failure to comply with conditions and terms of this Permit shall invalidate the Permit. [SIP Rule 22E]

REVISION PURSUANT TO A FEDERAL HAZARDOUS AIR POLLUTANT STANDARD: [County Rule 210 §301.2c]

If the Permittee becomes subject to a standard promulgated by the Administrator pursuant to Section 112(d) of the CAA, the Permittee shall, within 12 months of the date on which the standard is promulgated, submit an application for a permit revision demonstrating how the source will comply with the standard.

REQUIREMENTS FOR A PERMIT:

Except as noted pursuant to the provisions in Sections 403 and 405 of County Rule 210, no source may operate after the time that it is required to submit a timely and complete application, except in compliance with a permit issued pursuant to County Rule 210. However, if a source submits a timely and complete application for permit issuance, revision, or renewal, the source's failure to have a permit is not a violation of the County Rules until the Control Officer takes final action on the application. The Source's ability to operate without a permit as set forth in this paragraph shall be in effect from the date the application is determined to be complete until the final permit is issued. This protection shall cease to apply if, subsequent to the completeness determination, the applicant fails to submit, by the deadline specified in writing by the Control Officer, any additional information identified as being needed to process the application. If a source submits a timely and complete application for a permit renewal, but the Control Officer has failed to issue or deny the renewal permit before the end of the term of the previous permit, then the permit shall not expire until the permit renewal has been issued or denied. [County Rule 210 §301.9] [40 CFR 70.5(a)(2); 40 CFR 70.7(b) & (c)] [SIP Rule 220§301]

No person shall commence any earth moving operation or any dust generating operation without meeting the requirements of and obtaining any and all Earth Moving Equipment Permits and Permits to Operate required by County Rule 200. The provisions of this section shall not apply:

A. During emergency, life threatening situations or in conjunction with any officially declared disaster or state of emergency;

B. To operations conducted by essential service utilities to provide electricity, natural gas, oil and gas transmission, cable television, telephone, water, and sewerage during service outages and emergency disruptions;

C. To non-routine or emergency maintenance of flood control channels and water retention basins.
D. To vehicle test and development facilities and operations when dust is required to test and validate design integrity, product quality and/or commercial acceptance. Such facilities and operations shall be exempted from the provisions of this section only if such testing is not feasible within enclosed facilities. [County Rule 310 §302]

A permit is required for any open outdoor fire authorized under the exceptions in Arizona Revised Statutes §49-501 or County Rule 314. [County Rules 200 §306 & 314] [SIP Rules 51,52 & 314}

RIGHTS AND PRIVILEGES:
[County Rule 210 §302.1h] [40 CFR 70.6 (a)(6)(iv)]
This Permit does not convey any property rights nor exclusive privilege of any sort.

SEVERABILITY: [County Rule 210 §302.1g] [40 CFR 70.6(a)(5)]
The provisions of this Permit are severable, and, if any provision of this Permit is held invalid, the remainder of this Permit shall not be affected thereby.

SCOPE:
The issuance of any permit or permit revision shall not relieve the owner or operator from compliance with any Federal laws, Arizona laws, or the County or SIP Rules, nor does any other law, regulation or permit relieve the owner or operator from obtaining a permit or permit revision required under the County or SIP Rules. [County Rule 200§308] [SIP Rule 22H]

Nothing in this permit shall alter or affect the following:
A. The provisions of Section 303 of the Act, including the authority of the Administrator pursuant to that section. [County Rule 210 §407.2] [40 CFR 70.6(f)(3)]
B. The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance. [County Rule 210 §407.2] [40 CFR 70.6(f)(3)]
C. The applicable requirements of the acid rain program, consistent with Section 408(a) of the Act. [County Rule 210 §407.2] [40 CFR 70.6(f)(3)]
D. The ability of the Administrator of the USEPA or of the Control Officer to obtain information from a source pursuant to Section 114 of the Act, or any provision of State law. [County Rule 210 §407.2] [40 CFR 70.6(f)(3)]

E. The authority of the Control Officer to require compliance with new applicable requirements adopted after the permit is issued. [County Rule 210 §407.2]

TERM OF PERMIT: [County Rule 210 §§302.1a & 402; [40 CFR 70.6(a)(2)]
This Permit shall remain in effect for no more than 5 years from the date of issuance.

TRANSFER: [County Rule 200 §404]
Except as provided in ARS 49-429 and County Rule 200, this permit may be transferred to another person if the person who holds the permit gives notice to the Control Officer in writing at least 30 days before the proposed transfer and complies with the permit transfer requirements of County Rule 200 and the administrative permit amendment procedures pursuant to County Rule 210.

15. RECORDKEEPING:

RECORDS REQUIRED:
The owner or operator of any air pollution source shall maintain records of all emissions testing and monitoring, records detailing all malfunctions which may cause any applicable emission limitation to be exceeded, records detailing the implementation of approved control plans and compliance schedules, records required as a condition of any permit, records of materials used or produced and any other records relating to the emission of air contaminants which may be requested by the Control Officer. [County Rule 100 §503] [SIP Rule 40]

RETENTION OF RECORDS:
Information and records required by the Control Officer or these Permit Conditions as well as copies of summarizing reports recorded by the owner or operator and submitted to the Control Officer shall be retained by the owner or operator for five years (2 years per SIP Rule 40) after the date on which the pertinent report is submitted. [County Rule 100 §506] [SIP Rule 40]

Records of all required monitoring data and support information shall be retained for a period of at least five years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip-chart recordings or physical records for continuous monitoring instrumentation, and copies of all reports required by the permit. [County Rule 210 §302.1 d (2)] [40 CFR 70.6(a)(3)(ii)(B)]

MONITORING RECORDS:
[County Rule 210 §302.1d (1)] [40 CFR 70.6(a)(3)(ii)(A)]
Records of any monitoring required by this Permit shall include the following:

A. The date, place as defined in the permit, and time of sampling or measurements;
B. The date(s) analyses were performed;
C. The company or entity that performed the analyses;
D. The analytical techniques or methods used;
E. The results of such analyses; and
F. The operating conditions as existing at the time of sampling or measurement

RIGHT OF INSPECTION OF RECORDS: [County Rule 100 §106] [SIP Rule 40]
When the Control Officer has reasonable cause to believe that any person has violated or is in violation of any provision of County Rule 100 or any County Rule adopted pursuant to County Rule 100, or any requirement of this permit, the Control Officer may request, in writing, that such person produce all existing books, records, and other documents evidencing tests, inspections, or studies which may reasonably relate to compliance or noncompliance with County Rules adopted pursuant to County Rule 100. No person shall fail nor refuse to produce all existing documents required in such written request by the Control Officer.

16. REPORTING:

ANNUAL EMISSION INVENTORY QUESTIONNAIRE:
[County Rule 100 §508] [SIP Rule 40]
The Permittee shall complete and shall submit to the Control Officer an annual emissions inventory questionnaire. The questionnaire is due by April 30 or 90 days after the Control Officer makes the inventory form available, whichever occurs later, and shall include emission information for the previous calendar year.

The questionnaire shall be on a form provided by the Control Officer and shall include the following information:

A. The source's name, description, mailing address, contact person, contact person's phone number, and physical address and location, if different than the mailing address.
B. Process information for the source, including design capacity, operations schedule, and emissions control devices, their description and efficiencies.

C. The actual quantity of emissions, including documentation of the method of measurement, calculation or estimation, of regulated air pollutants, including fugitive emissions, in an aggregate quantity greater than one ton of each regulated air pollutant.

The Control Officer may require submittal of supplemental emissions inventory questionnaires for air contaminants pursuant to Arizona Revised Statutes (ARS) §49-476.01, ARS §49-480.03 and ARS §49-480.04.

DATA REPORTING: [County Rule 100 §504] [SIP Rule 40]
When requested by the Control Officer, a person shall furnish to the Maricopa County Air Quality Division (Division hereafter) information to locate and classify air contaminant sources according to type, level, duration, frequency and other characteristics of emissions and such other information as may be necessary. This information shall be sufficient to evaluate the effect on air quality and compliance with the County or SIP Rules. The owner or operator of a source requested to submit information pursuant to this Permit may subsequently be required to submit annually, or at such intervals specified by the Control Officer, reports detailing any changes in the nature of the source since the previous report and the total annual quantities of materials used or air contaminants emitted.

DEVIATION REPORTING:
[County Rules 100 §501.3d & 210 §302.1e] [40 CFR 70.6(a)(3)(iii)(B)]
The Permittee shall promptly report deviations from permit requirements, including those attributable to upset conditions. For the purposes of this Permit Condition, an upset shall be defined as the operation of any process, equipment or air pollution control device outside of either its normal design criteria or operating conditions specified in this Permit and which results in an exceedance of any applicable emission limitation or standard. The report shall be submitted to the Control Officer by certified mail, facsimile, or hand delivery within two working days of the knowledge of the deviation and shall contain a description of the probable cause of such deviations, and any corrective actions or preventive measures taken. In addition, the Permittee shall report within a reasonable time of any long term corrective actions or preventative actions taken as the result of any deviations from permit requirements. All instances of deviations from the requirements of this Permit shall also be clearly identified in the semiannual monitoring reports required in the Specific Condition section of these Permit Conditions.

EMERGENCY REPORTING: [County Rule 100 §501] [40 CFR 70.6(g)]

The Permittee shall, as soon as possible, telephone the Control Officer giving notice of the emergency and submitted notice of the emergency to the Control Officer by certified mail or hand delivery within two working days of the time when emission limitations were exceeded due to the emergency. This notice fulfills the requirement of County Rule 210. This notice shall contain a description of the emergency, any steps taken to mitigate emissions, and corrective action taken.

EMISSION STATEMENTS REQUIRED: [County Rule 100 §505] [SIP Rule 40]
Upon request of the Control Officer and as directed by the Control Officer, the owner or operator of any source which emits or may emit oxides of nitrogen (NO_x) or volatile organic compounds (VOC) shall provide the Control Officer with an emission statement, in such form as the Control Officer prescribes, showing measured actual emissions or estimated actual emissions of NO_x and VOC from that source. At a minimum the emission statement shall contain all information contained in the "Guidance on Emission Statements" document as described in the USEPA's Aerometric Information Retrieval System (AIRS) Fixed Format Report (AFP 644). The statement shall contain emissions for the time period specified by the Control Officer. Statements shall be submitted annually. The Control Officer may waive this requirement for the owner or operator of any source which emits less than 25 tons per year of oxides of nitrogen or volatile organic compounds with an approved emission inventory for sources based on the USEPA's Compilation of Air Pollutant Emission Factors (AP-42) or other methodologies approved by the Administrator.

EXCESS EMISSIONS REPORTING: [County Rule 100 §502]

A.. Excess emissions shall be reported as follows:

1) The Permittee shall report to the Control Officer any emissions in excess of the limits established by County Rule 100 §502 or these Permit Conditions. The report shall be in two parts as specified below:
   a) Notification by telephone or facsimile within 24 hours of the time when the owner or operator first learned of the occurrence of excess emissions including all available information from paragraph B of this Permit Condition.
   b) Detailed written notification within 72 hours of the notification pursuant to paragraph B of this Permit Condition.
2) The excess emissions report shall contain the following information:
   a) The identity of each stack or other emission point where the excess emissions occurred.

b) The magnitude of the excess emissions expressed in the units of the applicable emission limitation and the operating data and calculations used in determining the magnitude of the excess emissions.
c) The time and duration or expected duration of the excess emissions.
d) The identity of the equipment from which the excess emissions emanated.
e) The nature and cause of such emissions.
f) If the excess emissions were the result of a malfunction, steps taken to remedy the malfunction and the steps taken or planned to prevent the recurrence of such malfunction.
g) The steps that were or are being taken to limit the excess emissions. If this Permit contains procedures governing source operation during periods of startup or malfunction and the excess emissions resulted from start-up or malfunction, the report shall contain a list of the steps taken to comply with the Permit procedures.

B. In the case of continuous or recurring excess emissions, the notification requirements of this section of this rule shall be satisfied if the source provides the required notification after excess emissions are first detected and includes in such notification an estimate of the time the excess emissions will continue. Excess emissions occurring after the estimated time period or changes in the nature of the emissions as originally reported shall require additional notification pursuant to Rule 100 §502.3(a)(2).

OTHER REPORTING: [County Rule 210 §302.1h] [40 CFR 70.6 (a)(6)(v)]
The Permittee shall furnish to the Control Officer, within a reasonable time, any information that the Control Officer may request in writing to determine whether cause exists for revising, revoking and reissuing this permit, or terminating this permit, or to determine compliance with this permit. Upon request, the Permittee shall also furnish to the Control Officer copies of records required to be kept by this Permit. For information claimed to be confidential, the Permittee shall furnish a copy of such records directly to the Administrator along with a claim of confidentiality as covered elsewhere in these Permit Conditions.

17. RIGHT TO ENTRY AND INSPECTION OF PREMISES:

[County Rules 100 §105 and 210 §305f]
The Control Officer during reasonable hours, for the purpose of enforcing and administering County Rules, or any provision of the Arizona Revised Statutes

relating to the emission or control prescribed pursuant thereto, may enter every building, premises, or other place, except the interior of structures used as private residences.

The Permittee shall allow the Control Officer or his authorized representative, upon presentation of proper credentials and other documents as may be required by law, to:

A. Enter upon the Permittee's premises where a source is located or emissions-related activity is conducted, or where records are required to be kept pursuant to the conditions of the permit; [40 CFR 70.6(c)(2)(i)]

B. Have access to and copy, at reasonable times, any records that are required to be kept pursuant to the conditions of the permit; [40 CFR 70.6(c)(2)(ii)]

C. Inspect, at reasonable times, any sources, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required pursuant to this permit; [40 CFR 70.6(c)(2)(iii)] [SIP Rule 41]

D. Sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with the permit or other applicable requirements; [40 CFR 70.6(c)(2)(iv)] and

E. To record any inspection by use of written, electronic, magnetic, and photographic media.

SPECIFIC CONDITIONS

18. ALLOWABLE EMISSION LIMITATIONS

A. The Permittee shall not allow emissions of Volatile Organic Compounds (VOCs) as defined and calculated in accordance with Permit Condition 22C to be emitted into the atmosphere in excess of either 150 pounds per day nor more than 25 tons per year unless a landfill gas collection and destruction system meeting the requirements of Permit Condition 19B is installed and operating.
[County Rules 241]

B. Opacity

1) The Permittee shall not cause, suffer, allow or engage in any dust generating operation at the facility which causes fugitive dust in excess of 20 percent opacity. The provisions of this condition shall not apply when the average wind

speed is greater than 25 miles per hour, provided that all reasonably available control measures contained in the approved Dust Control Plan shall remain in effect.

[SIP Rule 310]

2) The Permittee shall not discharge into the ambient air from the flares any air contaminant, other than uncombined water, in excess of 20 percent opacity. Visible emissions exceeding the opacity standards for short periods of time resulting from start-up, shut-down, soot blowing or unavoidable combustion irregularities which do not exceed three minutes in length shall not constitute a violation provided that the Control Officer finds that adequate control technology has been applied. Unavoidable combustion irregularities which exceed three minutes shall not constitute a violation of this rule providing the owner or operator demonstrates to the Control Officer's satisfaction that an emergency exists in accordance with Regulation I, Rule 100, Section 501.

[County Rule 300]

3) Except as otherwise provided in Regulation I, Rule 4, Exceptions, the opacity of any plume or effluent, other than uncombined water, shall not be greater than forty percent (40%) opacity as determined by reference method 9 in the Arizona Testing Manual.

[SIP Rule 30]

C. The Permittee shall not emit hydrogen sulfide (H_2S) from the facility in such a manner or amount that the concentration of such emissions in the ambient air at any place beyond the property line exceeds 0.03 parts per million by volume (ppmv) for any averaging period of 30 minutes or more.

[County Rule 320 §304]

D. The Permittee shall limit carbon monoxide emissions through the use of the enclosed landfill gas flares. [County Rule 320]

E. Emissions from the enclosed flares shall not exceed the following limits based on a three-hour rolling average:

[Federally Enforceable] [County Rule 241] [40 CFR 70.6]

1) Total Volatile Organic Compounds (VOCs) (calculated as methane): 0.010 pounds per million British Thermal Units of landfill gas (lb/MMBtu) as well as 74 pounds per day;
2) Oxides of Nitrogen (NOx) (calculated as NO_2): 0.06 lb/MMBtu of landfill gas as well as 440 pounds per day;
3) Oxides of Sulfur (SO_x): 0.018 lb/MMBtu of landfill gas as well as 132 pounds per day;

4) Carbon Monoxide (CO): 0.15 lb/MMBtu of landfill gas as well as 1100 pounds per day; and
5) Particulate matter of 10 microns or smaller (PM_{10}): 0.011 lb/MMBtu of landfill gas as well as 81 pounds per day.

F. The Permittee shall not exceed the following emission limits for the entire facility during any rolling twelve-month period:

[Federally Enforceable] [County Rule 241] [40 CFR 70.6]

1) 168 tons per year of all VOCs,
2) 9.9 tons per year of any individual Hazardous Air Pollutant (HAP) as listed in Section 112(b) of the CAA,
3) 24.9 tons per year of total HAPs,
4) 80.3 tons per year of NOx,
5) 200 tons per year of CO,
6) 24.1 tons per year of SO_2, and
7) 14.7 tons per year of PM_{10}.

A rolling twelve-month period shall consist of any twelve consecutive calendar months.

19. OPERATIONAL REQUIREMENTS

A. The Permittee shall not accept waste at the landfill in excess of the following amounts:

1) 1.46 million tons in any rolling twelve-month period; and
2) 50.75 million tons during the lifetime of the landfill.

[County Rule 210] [40 CFR 70.6]

B. Landfill Gas Collection and Control System

1) The Permittee shall design, install, and operate a landfill gas collection and control system to reduce County VOC emissions (as defined in Permit Condition 22B) and Federal nonmethane organic compound (NMOC) emissions in the collected landfill gas by either 98 weight percent or to an outlet NMOC concentration of 20 parts per million as hexane by volume, dry basis at 3 percent oxygen, or less. The Permittee shall design, install, operate, and maintain the gas collection system (including the liner, daily cover, caps, and leachate collection/removal systems) such that the maximum practically achievable gas collection efficiency is achieved.

[County Rules 241 and 360][40 CFR 60.752]

2) Collected gas shall be burned in enclosed ground flares that shall achieve a minimum County VOC and Federal NMOC destruction efficiency of either 98% by weight or to an outlet NMOC concentration of 20 parts per million as hexane by volume, dry basis at 3 percent oxygen, or less. Destruction efficiency shall be taken as equivalent to the overall gaseous organic compound destruction efficiency, as measured by EPA test methods. Prior to selecting a test method, the Permittee shall demonstrate that the method is suitable for use given the expected concentrations of gases to be measured. Each flare's combustion chamber shall operate with a minimum 0.6-second residence time at a temperature above the higher of either the minimum destruction temperature specified by the flare manufacturer or the temperature demonstrated through emissions testing as being necessary to achieve the destruction efficiency required by these Permit Conditions.

[County Rules 241 and 360][40 CFR 60.752]

3) The Permittee shall ensure that an approved landfill gas collection and control system is in place and operational when the County VOC emission rate from the landfill reaches 24.7 tons per year, as follows:

[County Rule 241]

a. The Permittee shall conduct Tier 2 testing in accordance with the requirements of Condition 20.D. Tier 2 testing shall be conducted in accordance with EPA Reference Methods 18 or 25C every two years thereafter until an approved landfill gas collection and control system is in place and operational.

b. On or before the date the landfill's County VOC emissions (calculated in accordance with the requirements of Condition 22.B.) equal 20 tons per year, the Permittee shall submit design plans and specifications to the Control Officer in accordance with the requirements of Condition 22.C.

c. The Permittee shall install and operate the active landfill gas collection and control system within 12 months of the Control Officer's approval of the design plans and specifications and following the issuance of a permit for the modification.

d. The Permittee shall not accept waste that will cause the County VOC emissions from the facility to exceed 25 tons per year prior to application of Best Available Control Technology (BACT) as approved by the Division. If the County VOC emissions calculations performed in accordance with Condition 22.B. indicate that County VOC emissions from the facility will exceed 25 tpy, the Permittee shall cease its waste

acceptance until the landfill gas collection and control system is installed and operational, in accordance with the requirements of this permit.

4) When the Federal NMOC emissions calculated in accordance with the procedure in Condition 22.B. exceed 50 tons per year, the Permittee shall evaluate the active landfill gas collection and control system to ensure compliance with the minimum applicable requirements of the NSPS for municipal solid waste landfills, pursuant to 40 CFR Part 60 (Subpart WWW), as adopted by reference in Maricopa County Rule 360. The Permittee shall make any necessary changes in accordance with Maricopa County's permit revision procedures provided in Maricopa County Rule 210, Sections 404, 405, and 406.

[40 CFR 60.752(b)(ii), (iii)]

5) The design plans shall include the required monitoring, testing, record keeping, and reporting described in Rule 360. The Permittee shall also conduct the monitoring, testing, record keeping, and reporting for the installed landfill gas collection and control system in accordance with the applicable provisions in Rule 360. [County Rule 360] [40 CFR 60.753, 60.755, 60.756]

6) At least 30 days before startup of the gas collection and control system, the Permittee shall submit to the Control Officer for review and approval a gas collection and control system operating and maintenance plan (Plan). The Plan shall describe the operating and maintenance procedures that will be followed to achieve maximum practicable gas collection and destruction efficiency. The gas collection and control system will be operated and maintained in accordance with the Plan at all times.

[County Rules 241 and 360] [40 CFR 60.753, 60.755, 60.756]

7) Following installation of an approved gas collection and control system, the Permittee shall operate the landfill gas collection blower(s) and conduct landfill gases to the flare(s) whenever there is sufficient landfill gas generation to support flare operations. The Permittee shall only transport landfill gas to a properly operating flare.

[County Rules 241 and 360] [40 CFR 60.752. 60.756]

8) Prior to the date of startup of the blowers and flares, the Permittee shall install, maintain and operate the following safety/control instruments at all times that the landfill gas is being fed to the flare: temperature controller, flame detector, inlet oxygen monitor, inlet oxygen shut-off, flame-out shut-off, high temperature shut-off, feed gas flow meter/recorder, exhaust temperature monitor/recorder, and burners.

[County Rules 241 and 360] [40 CFR 60.756]

9) Each flare shall be equipped with a temperature indicator and recorder that measures and records the gas temperature in the flare stack. The temperature indicator and recorder shall operate whenever the flare is in operation. The temperature shall be measured at a location above the flame zone, at least 0.6 second downstream of the burner and not less than six feet from the top of the stack.

[County Rules 241 and 360] [40 CFR 60.756]

10) The Permittee shall not allow the flare exhaust temperature to rise above the maximum temperature specified by the flare manufacturer.

[County Rules 241 and 360] [40 CFR 60.756]

11) The Permittee is not authorized to use any fuel other than landfill gas in the flares, except during startup when propane or compressed natural gas may be used.

[County Rule 210] [40 CFR 70.6]

12) The Permittee shall apply final cover over each phase of the landfill once it has been filled to capacity. Prior to filling the first phase of the landfill, the Permittee shall submit to the Control Officer for review and approval the proposed specifications for the final cover. The proposed specifications shall be consistent with the approved Solid Waste permit. The final cover for each cell shall be adequate to assure compliance with the 500 ppmv surface concentration limit for methane, as specified in the Surface Monitoring requirement of these Conditions.

[County Rules 241 and 360] [40 CFR 60.755]

13) The Permittee shall not feed landfill gas to any enclosed flare at the landfill at a flowrate that would cause the specific volumetric heat release rate in each flare to exceed the manufacturer's specifications for the flare.

[County Rules 241 and 360] [40 CFR 60.756]

C. Open Fugitive Dust Sources [County Rules 300 & 310] [SIP Rule 310]

1) The Permittee shall maintain at all times during the lifetime of the project a Dust Control Plan approved in writing by the Control Officer for earth-moving operations that disturb a total surface area of 0.10 acre or more.

2) The Permittee shall revise the Dust Control Plan as necessary in accordance with the requirements of Conditions 19.C.5 and 20.B.

3) The Permittee shall apply all necessary measures to comply with the applicable opacity limits, including but not limited to all Reasonably

Available Control Measures (RACMs) for controlling dust emissions in all areas of the landfill as set forth in the Permittee's most recently approved Dust Control Plan.

4) The Permittee shall not disturb or remove soil, natural ground cover or vegetation without first implementing reasonably available control measures to effectively prevent or minimize fugitive dust. Furthermore, within eight months of the termination of dust generating activities on a work site, disturbed surface areas shall be stabilized through the application of reasonably available control measures of a permanent nature.

5) RACMs shall consist of at least one measure for each of the following categories:
   a) EARTHMOVING
      (1) Grading / Demolition / Landscaping / Weed Control:
         (a) Conduct watering as necessary to prevent or minimize visible emissions
         (b) Prewet site to depth of cuts
         (c) Increase watering frequency during high wind conditions until there is no evidence of wind blown dust (contingency only, not to be used as a primary RACM)
         (d) Cease operations (contingency only, not to be used as a primary RACM)
      (2) Trenching / Screening / Backfilling:
         (a) Mist dust cloud resulting from trenching
         (b) Mist material after it drops from screen
         (c) Water truck or large hose dedicated to trenching & backfilling equipment
         (d) Increase watering frequency during high wind conditions until there is no evidence of wind blown dust (contingency only, not to be used as a primary RACM)
         (e) Cease operations (contingency only, not to be used as a primary RACM)

   b) SITE STABILIZATION / DISTURBED SURFACE AREA
      (1) Temporary Stabilization: (Including Weekends & Holidays)
         (a) Apply water to all areas at least twice a day until a crusted surface has formed
         (b) Apply chemical stabilizers
         (c) Install wind fences/barriers/form berms (in addition to the above)
      (2) When active operations will not occur for more than fifteen days:
         (a) Apply dust suppressants to all disturbed areas to maintain stabilization

(b) Apply water to all inactive disturbed areas at least twice a day until a crusted surface has formed
(c) Install temporary coverings/enclosures (in addition to one of the above)

(3) Final Stabilization: Within 8 months after active operations have ceased:
(a) Pave the affected area
(b) Physical stabilization with gravel/recycled asphalt
(c) Physical stabilization with vegetation

(4) Open Storage Piles:
(a) Apply chemical stabilizers
(b) Apply water to the surface area of all open storage piles on a daily basis
(c) Install temporary coverings/enclosures (in addition to one of the above)

Prior to and during any high wind event, control measures must continue to be implemented or increased as necessary to effectively minimize wind blown dust.

c) MATERIAL HANDLING / HAULING
(1) Material Loading:
(a) Pre-wet material prior to handling or loading
(b) Water/mist while loading to prevent or minimize visible emissions

(2) Hauling: All haul trucks carrying bulk materials must be effectively covered with a tarp or other suitable enclosure

d) ROADWAYS / ACCESS POINTS
(1) Unpaved Haul / Access Roads / Equipment Paths :
(a) Stabilize with gravel/recycled asphalt
(b) Apply chemical dust suppressants to maintain surface stabilization
(c) Water all surfaces as needed to prevent or minimize visible emissions
(d) Restrict vehicle speed to 15 MPH (in addition to the above)

(2) Access Points: Vacuum or wet broom all visible track-out on a daily basis in addition to any of the following
(a) Install a stabilized construction entrance/coarse gravel pad - required on all sites larger than 5 acres OR if there will be ANY material hauling on or off site.
(b) Install a wheel washer
(c) Limit, restrict, reroute motor vehicle access

The Permittee may develop and submit for Control Officer approval alternative dust control measures designed to achieve equal or greater levels of dust control as compared to the measures required by this Permit Condition and the approved dust control plan. If approved by the Control Officer, such control measures may be used in place of the control measures required by this Permit Condition , as determined by the Control Officer. Within 7 days after the approval by the Control Officer of any alternative dust control measures, the Permittee shall submit a revised dust control plan to the Control Officer for approval.

D. Liquid Storage Tanks [County Rule 241] [SIP Rules 33, 353]

1) The Permittee shall install a submerged fill pipe in each fully enclosed gasoline storage tank and leachate storage tank. The fill pipe shall be totally submerged when the depth of the liquid in the tank is 6 inches or more.

2) The Permittee shall operate all leachate and petroleum liquid storage tanks as recommended by the manufacturer and shall keep them maintained in leak-free condition.

3) The Permittee shall not receive more than 1,000 (one thousand) gallons of gasoline per year and the gasoline shall not be for resale.

4) The Permittee shall not receive more than 50,000 (fifty thousand) gallons of Diesel fuel per year, and the Diesel fuel shall not be for resale.

E. Material Containment [County Rule 320] [SIP Rule 32]

The Permittee shall apply a minimum of six inches of daily cover material (or other ADEQ-approved method) and, when necessary to meet the odor control requirements of this Permit, treatment with lime or other approved control chemicals or processes to limit odorous contaminants from the facility's equipment or operations.

F. Asbestos Disposal [County Rule 370] [40 CFR 61.154]

On any day that asbestos-containing material is received, the Permittee shall apply a minimum of six inches of compacted daily cover material (non-asbestos-containing material) to the active portions of the landfill where asbestos-containing material is placed.

G. Contaminated Soil [County Rule 210]

The Permittee shall not accept contaminated soil at the landfill. Contaminated soil is defined as soil that contains more than 100 ppmw of any organic material having a true vapor pressure of 1.5 psia (77.5 mm Hg) or greater under actual conditions.

H. Landfill Unacceptable Wastes [County Rule 210]

The Permittee shall not accept the following wastes:

1) White goods or large appliances that contain ozone-depleting substances as defined in 40 CFR 82, Subpart F (refrigerators, air conditioning units, etc.)
2) Automobiles (cars, trucks, equipment, etc.)
3) Automobile batteries or other large batteries
4) Wastes collected at household hazardous waste collections
5) Hazardous wastes
6) Infectious, hazardous or sharp medical wastes
7) Chemical by-products
8) Pressurized containers
9) Used oil
10) Unused pesticides and herbicides
11) Fuel tanks
12) Untreated sewage
13) Shock-sensitive wastes
14) Radioactive wastes

20. TESTING REQUIREMENTS

A. Landfill Gas Control Systems
[SIP Rules 26 and 27] [County Rules 270 and 360]

1) The Permittee shall conduct one set of initial compliance tests on the landfill gas control system for each of the two flares no later than 180 days after the date that the landfill gas flowrate first sustains 25 percent of one flare's full-rated flowrate for more than four (4) hours in a single day. Additional compliance testing shall be conducted annually, and at such other times as shall be required by the Control Officer. The tests for VOC destruction efficiency shall be conducted at the maximum firing capacity achievable for the landfill gas generation rate at the time of testing. The Control Officer may waive the requirement for a particular test, or the frequency thereof, upon request.
[County Rule 210]

2) The Permittee shall submit a compliance test protocol to the Control Officer for review and approval at least sixty days prior to conducting the tests. Testing shall be performed in accordance with the requirements of the Arizona Testing Manual. The testing shall be conducted in accordance with the following USEPA-approved test procedures:

   a) EPA Methods 1, 2, 3, 4, 16, and 18, 25, or 25A at the flare inlet; and
   b) EPA Methods 1, 2, 3, 4, 5, 6C, 7E, 10, 16, and 18, 25, or 25A at the flare outlet.

   The Permittee may propose other applicable test methods.

   [40 CFR 60.8, 60.754(d)]

3) The Permittee shall notify the Division, Attn: Emissions Testing Supervisor in writing of the actual date and time of the performance tests at least two weeks in advance of the testing so that the Division may arrange to have a representative attend.

4) The tests shall include, but may not be limited to, a test of the inlet gas to the flare and the flare exhaust for:

   a) Methane
   b) Total non-methane organic compounds
   c) Volatile organic compounds
   d) Oxides of nitrogen (exhaust only)
   e) Carbon monoxide (exhaust only)
   f) Total particulates (exhaust only)
   g) Sulfur dioxide (exhaust only)
   h) Hydrogen sulfide and total reduced sulfur
   I) Carbon dioxide
   j) Toxic air contaminants including, but not limited to, benzene, chlorobenzene, dichlorobenzene, 1,2-dichloroethane, 1,1-dichloroethane, dichloromethane, tetrachloroethylene, tetrachloromethane, toluene, 1,1,1-trichloroethane, trichloroethylene, trichloromethane, vinyl chloride and xylene isomers
   k) Oxygen
   l) Nitrogen
   m) Moisture content
   n) Flow rate
   o) Flare exhaust temperature at the time of the test and flare temperature recorded by the sensor required in Condition 19.B.

   [40 CFR 60.8, 60.754(b)]

5) The Permittee shall complete and submit a report to the Division within 30 days after completion of the testing. The report shall summarize the results of the testing in sufficient detail to allow a compliance determination to be made.

B. Opacity and Fugitive Dust[County Rules 300, 311] [SIP Rules 25, 30, 311]

1) The Permittee shall demonstrate compliance with the opacity requirements for the flare(s) by taking a visual emissions (VE) reading of the stack emissions of each operating flare once a week using EPA Reference Method 9 or EPA Reference Method 22. If emissions are visible from any of these units while conducting a Method 22 reading, the Permittee shall obtain an opacity reading conducted in accordance with EPA Reference Method 9 by an individual who is certified at that time as meeting the training and testing requirements as set forth in EPA Reference Method 9. This Method 9 reading shall be taken within three (3) days of the observation of visible emission. If the problem is corrected before three days have passed, and no emissions are visible, the Permittee shall record in a written log the event, date, time, conditions and any corrective actions taken and shall not be required to conduct the Method 9 reading. If a Method 9 reading is required to be taken by this Permit Condition because of the presence of visible emissions, the Permittee shall have subsequent Method 9 readings taken weekly until no visible emissions are observed.

2) Compliance with the approved Dust Control Plan is deemed to be compliance with the requirements of Condition 19 C 4) to control fugitive dust from disturbed surface areas. Additionally, compliance with the approved Dust Control Plan is deemed to be compliance with the opacity limitations for fugitive emissions in Conditions 18.B unless an exceedance of the standard is documented by a representative of either the Control Officer or the USEPA who is a certified VE reader. If a violation of the applicable opacity limitation is observed by a representative of either the Control Officer or the USEPA who is a certified VE reader at the time of the reading, the Permittee shall revise the Dust Control Plan to address the conditions that caused the observed violation and shall submit the revised Dust Control Plan to the Division: Attn: Dust Control Unit for approval within 3 days of being notified of the observed violation.

[County Rule 310] [SIP Rule 310]

3) For purposes of these Conditions, a certified VE reader shall be an individual who, at the time the reading is taken, is certified by the Arizona Department of Environmental Quality (ADEQ) or their qualified contractor, as meeting the training and testing requirements as specified in EPA Reference Method 9.

C. Odor [County Rule 320] [SIP Rule 32]

If the Division or the Permittee logs more than three off-site odor complaints pursuant to Subsection 21.C during any four consecutive weeks, the Permittee shall conduct property line monitoring for H_2S within 48 hours of receiving the third complaint. The Permittee shall notify the Division, Attn: Emission Testing Supervisor, by telephone or in writing at least 24 hours in advance of conducting the required monitoring.

The monitoring shall be performed using a Jerome 631-X (or equivalent approved by the Division) portable hydrogen sulfide gas analyzer with the capability to detect H_2S at concentrations in the parts per billion by volume (ppbv) range. The analyzer shall be calibrated and operated in accordance with the manufacturer's operating instruction book.

Monitoring shall be conducted at a minimum of 12 locations of equal spacing along the property line of the landfill (approximately every 1/2 mile) and shall be collected from between three and six feet above the ground surface. The monitoring period for each location shall be a period of ten minutes and the period shall begin as soon as possible after the tester arrives at the sampling location.

1) If odors are detectable when the tester arrives at a monitoring location, three readings shall be taken at roughly five minute intervals.
2) If no odors are detectable when the tester arrives at a monitoring location, the tester shall not immediately begin to take readings .
    a) If odors become noticeable during the ten minute monitoring period, the tester shall take three readings which are evenly spaced over the remainder of the ten minute monitoring period.
    b) If no odors are detectable during the first 9 minutes of the sampling period, then the 3 required readings shall be taken during the final minute of the monitoring period.

If the property line monitoring shows an average H_2S concentration of 0.03 ppmv or higher at any of the monitoring locations, the Permittee shall implement a plan to control the H_2S emissions within 7 calendar days. Upon implementation of the odor control plan, the Permittee shall monitor property line concentrations weekly until three weeks of data indicate the H_2S emissions have been controlled to 0.03 ppmv or less. The Permittee shall submit to the Division, Attn: Title V Compliance Supervisor, a report of complaints and of actions taken to implement the odor control plan within 14 calendar days of receiving the complaints.

The Control Officer reserves the right to require additional monitoring or testing for odoriferous compounds which might reasonably be expected to be emitted from the landfill.

D. Tier 2 Testing [County Rules 241]

1) On or before the date the Federal NMOC emissions calculated in accordance with Condition 22.B.1 exceed 50 megagrams per year or the County VOC emissions calculated in accordance with Condition 22.B.2 exceed 20 tons per year, whichever is earlier, the Permittee shall conduct NSPS Tier 2 testing in accordance with the requirements of 40 CFR 60.754(a)(3) to establish site-specific NMOC and VOC concentrations (C_{NMOC} and C_{VOC}).

[County Rule 360] [40 CFR 60.754]

2) At least 90 days prior to undertaking the Tier 2 testing program, the applicant shall submit a proposed test protocol to the Division, Attn: Emission Testing Supervisor, for approval.

3) Within 60 days following the completion of the Tier 2 testing program, the Permittee shall submit to the Division, Attn: emission Testing Supervisor, a test report that presents the results of the testing, the proposed site-specific values for C_{NMOC} and C_{VOC}, and the test data and calculations supporting the proposed site-specific values.

E. Tier 3 Testing [40 CFR 60.754]

On or before the date the calculated County VOC emission rate is equal to or greater than 20 tons per year as calculated in accordance with Condition 22.B.4, the Permittee may (as an option) determine the site-specific methane generation rate constant using Reference Method 2E and recalculate the Federal NMOC and County VOC emissions using the Tier 3 approach described in 60.754(a)(4) for purposes of compliance with Condition 22.B.8.

21. MONITORING AND RECORD KEEPING REQUIREMENTS

A. The Permittee shall keep a daily written log recording the actual implementation of measures used to comply with the opacity limits, including Reasonably Available Control Measures (RACM) including, but not limited to, quantity of

water or other dust suppressants used, number of applications, and location of applications and shall make such information available for review on request by the Division. [SIP Rule 310]

B. The Permittee shall maintain daily records of the quantities of daily cover and/or odor control chemicals applied to the landfill. These records shall indicate the type of daily cover applied (e.g., soil, synthetic, other), the quantity applied (e.g., volume, square feet of application, or other units describing application), and the location of the application (e.g., cell number).[County Rule 320] [SIP Rule 32]

C. The Permittee shall maintain a log of odor complaints from any residence or workplace located beyond the Permittee's property line. The Permittee shall also retain the records of all property line odor monitoring that is conducted at the landfill. The records shall contain the results of all of the H_2S sampling including the location, time each sample was taken, measured H_2S or other odoriferous compound concentrations, whether any noticeable odors were present, the general direction and estimated speed of the wind at the time the readings were taken and any appropriate comments.
[County Rule 320] [SIP Rule 32]

D. The Permittee shall keep a daily log of all unique waste delivered to the landfill by load and tonnage. The Permittee shall also note in the log which cell the waste was disposed in, if any special preparation (such as excavation) was required, and if any special care was required in disposing of the waste or covering the waste (i.e., containerized waste was not to be broken up, immediate cover was required, etc.). The Permittee shall also record the quantity and type of cover material placed over the unique waste. For the purpose of this permit, unique waste shall be defined as all other waste that is not municipal solid waste or typical household waste and is the predominant component of a load of waste being delivered to the landfill for disposal. Construction and demolition waste is not unique waste unless it contains asbestos.
[County Rule 241]

E. The Permittee shall maintain records showing compliance with the requirements of Subsections 19.E and 19.F regarding daily application of cover material. These records shall include the area and quantity of cover material placed over the portion of the landfill where the asbestos-containing material is disposed. The Permittee shall maintain records of the location, depth, area, and quantity (cubic yards) of asbestos-containing waste material on a map or diagram of the disposal area until landfill closure.
[County Rule 370] [40 CFR 61.154]

F. The Permittee shall keep a log of all loads or partial loads that are rejected or not accepted at the landfill for disposal. The log shall note the date, owner of

waste (if known), transporter, waste type, reason for rejection, and amount of waste rejected.

[County Rule 241]

G. Prior to operating the enclosed flares, the Permittee shall install and thereafter operate and maintain:[County Rules 241 and 360] [40 CFR 60.752, 60.756]

1) A gas flowmeter and flow recorder on the perimeter header landfill gas inlet line to each flare station;
2) A temperature controller on the flare exhaust, which automatically controls the air admitted at the aspirated air louvers to maintain a preset flare exhaust temperature;
3) A continuous temperature recorder to record the flare exhaust temperature versus time;
4) Temperature monitor(s) that displays the exhaust temperature of each flare;
5) An oxygen analyzer/monitor on the flare-station landfill gas inlet manifold;
6) A high-oxygen shutoff on the landfill gas blower drivers;
7) Low temperature, flame-out, and high temperature flare-feed shutoffs at each flare; and
8) An automatic dialing system that will automatically notify a designated attendant in the event of an alarm, shutdown or shutoff related to the flare or blower systems.

H. The Permittee shall monitor the landfill gas oxygen concentration at the flare station manifold at least once per day when landfill gas is fed to the flare. The owner/operator shall not allow the oxygen concentration in the landfill gas at the flare station inlet manifold to rise above 3.5 percent. The monitoring results shall be recorded, kept on-site and presented to the Division upon request.

[County Rules 241 and 360] [40 CFR 60.756]

I. For the flare stations, the Permittee shall:[County Rules 241 and 360] [40 CFR 60.756]

1) Set the low and high temperature shutoffs to activate at temperatures specified by the flare manufacturer;
2) Set the high oxygen shut-off to activate at 3.5 percent;
3) Inspect, repair, and calibrate the safety/control instruments in accordance with manufacturers' recommendations;
4) Record the date, time, repairer name, instrument identification, and description of repair for each repair or calibration event; and
5) Maintain the records of calibrations and repairs on-site and present them to the Division upon request.

J. The Permittee shall inspect the landfill gas transfer paths that operate at a positive pressure at least once per month with a properly calibrated instrument capable of detecting methane at concentrations of 500 to 10,000 ppmv. The Permittee shall repair any detected leak. A leak is defined as a concentration greater than 1,000 ppm at a distance of 1 cm or less from the source, monitored in accordance with EPA Method 21. The Permittee shall record the date, identification of area inspected, identification of instrument, name of inspector, gas concentrations detected, and description of repairs for each inspection.
[County Rule 241]

K. Surface Monitoring [County Rules 241 and 360] [40 CFR 60.753, 60.755]

1) The owner/operator shall repair, upgrade, or maintain the landfill cover to prevent the concentration of total organic compounds from exceeding 500 parts per million by volume (ppmv), measured as methane, above background at any location along the perimeter of the collection area or within the collection area. The Permittee shall record the date, identification of area inspected, identification of instrument, name of inspector, gas concentrations detected, and description of repairs, upgrades, or maintenance for each inspection.
2) Landfill surface monitoring shall be performed monthly within the area where the gas collection system is installed in accordance with the requirements of 40 CFR 60.755(c) and (d).

L. The Permittee shall monitor, record, and report County VOC emissions and Federal NMOC emissions as described in Condition 22.B.
[County Rules 241 and 360] [40 CFR 60.754]

M. The Permittee shall maintain records showing the quantity of all gasoline and Diesel fuel delivered to the facility each month and shall record the totals received for each rolling twelve month period.
[County Rule 241] [SIP Rules 33, 353]

22. REPORTING REQUIREMENTS

A. Asbestos Disposal [County Rule 370] [40 CFR 61.154]

1) The Permittee shall notify USEPA and the Division, Attn: Asbestos Coordinator, within 90 days of its initial acceptance of asbestos-containing waste material.

2) The Permittee shall report in writing, by the following workday, the presence of a significant amount of improperly enclosed or uncovered asbestos containing waste material. The report shall be filed with the Division, Attn: Asbestos Coordinator, and the local, State, or USEPA Regional office responsible for administering the asbestos National Emission Standard for Hazardous Air Pollutants (NESHAP) program for the waste generator (identified in the waste shipment record) if different from the Division. The report shall include a copy of the waste shipment record.

3) If the Permittee discovers any discrepancies between the quantity of waste designated on the waste shipment records and the quantity actually received which cannot be reconciled within 15 days, the Permittee shall immediately report in writing to the Division, Attn: Asbestos Coordinator, and the local, State, or USEPA Regional office responsible for administering the asbestos NESHAP program for the waste generator (identified in the waste shipment record) if different from the Division. The report shall describe the discrepancy and attempts to reconcile it, and shall include a copy of the waste shipment record.

4) The Permittee shall comply with the requirements of Rule 370 and 40 CFR 61.151 regarding landfill closure.

B. Landfill NMOC and VOC Emissions

1) Except as provided in Condition 22.B.10, the Permittee shall annually calculate and report the NMOC emissions from the landfill to the USEPA and the Division using the NSPS Tier 1 equations in 40 CFR 60.754(a)(1)(i) or 60.754(a)(1)(ii). The reports shall be prepared in accordance with the requirements of 40 CFR 757(b). The first report shall be due within 90 days of the date of initial waste acceptance at the landfill. The model parameters used in this calculation shall be the parameters specified in the NSPS in effect at the time the report is prepared. NMOC emissions calculated in accordance with this subsection shall be referred to as "Federal NMOCs". The Permittee shall annually submit a copy of the Federal NMOCs emission report to the USEPA and the Division, Attn: Title V Compliance Supervisor, within 45 days of the end of each calendar year.

[County Rule 360] [40 CFR 60.754 & 60.757]

2) Except as provided in Condition 22.B.10, the Permittee shall annually calculate the County VOC emissions from the landfill using the NSPS Tier 1 equations in 40 CFR 60.754(a)(1)(i) or 60.754(a)(1)(ii). The model parameters used in this calculation shall be 0.02 per year for k, 125 cubic meters per megagram for L_o, and 942.35 parts per million by volume for C_{VOC}. This value of C_{VOC} shall be used in place of C_{NMOC} in the Tier 1 equations. The calculation shall include emissions from the previous calendar year, based on actual waste in place, and projected emissions for the next two calendar years, based on projected waste receipts and reflecting existing and anticipated contracts. VOC emissions calculated in accordance with this subsection shall be referred to as "County VOCs". The Permittee shall submit a report of County VOCs and supporting documentation to the Division, Attn: Title V Compliance Supervisor, no later than 45 days after the end of each calendar year.

[County Rules 200 and 241]

3) Following completion of the Tier 2 testing and approval by the Division of the site-specific values for C_{NMOC} in accordance with Condition 20.D, the Permittee shall annually calculate the Federal NMOC emissions from the landfill using the NSPS Tier 1 equations and the actual NMOC concentration determined by the Tier 2 testing. The calculation shall be made using the NSPS-specified values for k and L_0 and the Tier 2 NMOC concentration for C_{NMOC}. The Federal NMOC emission report shall be prepared in accordance with the requirements of 40 CFR 60.757(b) and shall be submitted to the USEPA and to the Division, Attn: Title V Compliance Supervisor, within 45 days of the end of each calendar year.

[County Rule 360] [40 CFR 60.754]

4) Following approval by the Division of the proposed site-specific value for C_{VOC}, the Permittee shall calculate the County VOC emissions from the

landfill using the NSPS Tier 1 equations and the actual VOC concentration determined by the Tier 2 testing. The model parameters used in this calculation shall be 0.02 per year for k, 125 cubic meters per megagram for L_0, and the Tier 2 VOC concentration for C_{VOC}. The Tier 2 value of C_{VOC} shall be used in place of C_{NMOC} in the Tier 1 equations. The calculation shall include emissions from the previous calendar year, based on actual waste in place, and projected emissions for the next two calendar years, based on projected waste receipts and reflecting existing and anticipated contracts. The Permittee shall submit a report of County VOCs and supporting documentation to the Division, Attn: Title V Compliance Supervisor no later than 45 days after the end of each calendar year.

[County Rule 241]

5) Within one year of the date the Federal NMOC emissions exceed 50 megagrams per year, or on or before the County VOC emissions exceed 20 tons per year when calculated using the site-specific values of C_{NMOC} and C_{VOC}, whichever is earlier, the Permittee shall submit to the USEPA and to the Division design plans and specifications and an installation schedule for an active landfill gas collection and enclosed flare control system and an application for a modification to this permit. The landfill gas collection and control system shall meet the requirements of 40 CFR Part 60 Subpart WWW and of Maricopa County Rule 241 and of this permit. [County Rules 241 and 360] [40 CFR 60.754]

6) Once the County VOC emissions exceed 20 tons per year when calculated using the site-specific value of C_{VOC}, the Permittee shall submit reports to the Division, Attn: Title V Compliance Supervisor of County VOC emissions on a monthly basis, no later than 15 days after the end of each calendar month.

[County Rule 241]

7) If at any time during a calendar year the quantity of waste received at the landfill exceeds the quantity projected in the previous calendar year's emissions calculations, the Permittee shall reevaluate projected emissions from the landfill for that calendar year and shall submit a revised County VOC emissions report to the Division, Attn: Title V Compliance Supervisor, within 30 days. [County Rule 241]

8) If the Permittee chooses to develop a site-specific methane generation rate under the provisions of Condition 20.E, the site-specific methane generation rate shall be used in lieu of the values prescribed in Conditions 22.B.5 & .6. Permittee shall compare the Tier 3 calculated emissions to 20 tons per year. If the calculated County VOC emission rate is less than 20

tons per year, the Permittee shall submit the annual emissions report to the Division. [County Rule 241]

9) Submittal of reports under Condition 22.B.3 satisfies the requirement of Condition 22.B.1. Submittal of reports under Condition 22.B.4 satisfies the requirement of Condition 22.B.2. Submittal of reports under Condition 22.B.8 satisfies the requirements of Conditions 22.B.2 and 22.B.4.
[County Rules 241 and 360] [40 CFR 60.754]

10) The Permittee is exempt from the calculation and reporting requirements of Condition 22.B after the installation of a collection and control system in compliance with Condition 19.B and 40 CFR 752.(b)(2), during such time as the collection and control system is in operation and in compliance with 40 CFR 60.753 and 40 CFR 60.755, and with the conditions of this permit.
[County Rules 241 & 360] [40 CFR 60.757}

C. Landfill Gas Collection and Control System Plan

1) On or before the date the landfill's County VOC emissions rate equals or exceeds 20 tons per year when calculated in accordance with Condition 22.B.4, the Permittee shall submit an active landfill gas collection and enclosed flare control system design plan prepared by a professional engineer and an application for a permit revision to the Division for approval. The landfill gas collection and control system design shall meet the BACT requirements of Maricopa County Rule 241. The design plan submittal shall meet the permit revision requirements pursuant to Section 400 of Maricopa County Rule 210.
[County Rules 210, 241]

2) The design plan shall include the site-specific operational standards, test methods, procedures, compliance measures, monitoring, record keeping, and reporting provisions as described in 60.753 through 60.758. To the extent allowable under 40 CFR 60 Subpart WWW, the design plans may, if necessary, include any alternatives to the standards provided in 60.753 through 60.758.
[County Rule 360] [40 CFR 60.753, 60.754, 60.755, 60.756, 60.757, 60.758]

D. Source-Specific Excess Emissions Reports
[County Rule 360] [40 CFR 60.757]

The Permittee shall prepare and submit to the Division, Attn: Title V Compliance Supervisor, excess emission reports in accordance with the requirements of 40 CFR 60.757(f) within 45 days of the end of each calendar year.

E. Odor Monitoring:

The Permittee shall submit the records for any property line H_2S monitoring required by Condition 20.C to the Division, Attention: Large Source Compliance Supervisor, within one business day of the completion of the required monitoring.

[County Rule 210]

EQUIPMENT LIST

Continental Waste Industries Arizona, Inc.
Permit Number V97003
March 27, 1998

1. Municipal Solid Waste Landfill, 50.75 million metric tons capacity

2. Two enclosed methane flares, 2,260 scfm each

Additional, insignificant sources:

1. Eight leachate tanks, 20,000 gallons each

2. One 10,000 gallon diesel storage tank

3. One 250 gallon gasoline storage tank

Title V Permit
Gila Bend Regional Landfill
Application No. V97003

Table of Contents

I. ENGINEERING EVALUATION

Facility Name: Gila Bend Regional Landfill
2001 Citrus Valley Road
Gila Bend, Arizona
Location: Latitude 32° 57′ 50″; Longitude 112° 48′46″

Applicant: Continental Waste Industries Arizona, Inc.

Responsible Official: Chuck Turner
General Manager
(520) 683-2451

Contact: Chuck Turner
General Manager
(520) 683-2451

Mailing Address: Drawer W
Gila Bend, AZ 85337

Continental Waste Industries Arizona, Inc., proposes to install and operate a regional municipal solid waste landfill near the town of Gila Bend, Arizona. The proposed landfill will accept municipal solid waste, including household waste, from homes and businesses; construction debris; asbestos; and certain state-designated "special wastes." Waste will be delivered to the landfill primarily by truck or rail. No hazardous, radioactive or infectious medical wastes will be accepted at the landfill; burning of waste will not be allowed.

The landfill will have a capacity of 75 million cubic yards of waste and is expected to accept waste for approximately 30 years. Auxiliary equipment at the landfill will include one 250-gallon gasoline storage tank and one 10,000-gallon Diesel storage tank for dispensing fuel into motor vehicles operating at the landfill; and eight 20,000-gallon tanks for storing collected leachate generated by the landfill. The construction and operation of landfill gas collection or control systems or equipment is not authorized under this permit.

A. Emissions Sources

1. Landfill Activities

The proposed landfill will accept and dispose of municipal solid waste. Solid waste will be delivered to the site by truck or rail and deposited into the landfill. Deposited waste will be compacted by heavy equipment. Soil from the adjacent borrow area will be transported to the site to be used for daily cover. These landfill activities have the potential for generating fugitive dust emissions through the disturbance of soil. Fugitive dust emissions will be minimized through the implementation of control measures, which include: prewetting the borrow area to suppress fugitive dust during construction and general

operations; constructing gravel, compacted soil or asphalt roads and watering unpaved roads to minimize dust generation from vehicle operations; monitoring and sweeping or vacuuming asphalt surfaces to prevent material track-out; applying chemical stabilizers and/or water to disturbed surfaces to suppress fugitive dust during landfill operations; and tarping trucks carrying bulk materials to prevent generation of fugitive dust from material transport. The County has reviewed and approved a Dust Control Plan for the operations at the facility, and the Plan requires the applicant to minimize fugitive dust emissions from the landfill and to implement the reasonably available dust control measures in the approved dust control plan. The Dust Control Plan is incorporated into this permit.

2. Gaseous Emissions from the Landfill

Biodegradation of the disposed refuse will generate methane, carbon dioxide (CO_2), nonmethane organic compounds (NMOCs), and hazardous air pollutants (HAPs). The quantities of these emissions depend upon the quantity and type of waste deposited, ambient temperature and humidity, rainfall, and other factors. Emissions of regulated pollutants (NMOCs and HAPs) have been predicted using EPA's landfill emissions model[1] and information provided by the applicant regarding waste acceptance rates. The model contains default values that must be used under some circumstances; user-defined values may also be used. Two different calculation methods are used for determining compliance with two different sets of applicable requirements. These applicable requirements and calculation methods are discussed in more detail below.

While the Maricopa County rules regulate the emissions of volatile organic compounds (VOCs), the landfill model predicts emissions of NMOCs. Total NMOCs include some compounds that are not included in total VOCs. The only nonmethane organic compound that accounts for a significant fraction of the NMOC emissions from the landfill is ethane. To convert the model-predicted NMOC emissions to VOCs for determining compliance with County rules, ethane emissions will be excluded.

As described above, gaseous emissions from the landfill result from biodegradation of the disposed refuse. Until refuse has been in place for some period of time, the quantity of landfill gas generated will not be adequate to support combustion in a flare. While Best Available Control Technology (BACT) for this project has been determined to be a landfill gas collection and control system, it has also been determined that the collection and control system cannot be installed and operated until there is an adequate volume of landfill gas produced. This is expected to occur when there are approximately $1.5x10^6$ tons of waste in place. Because of the nature of landfill operations, the landfill will initially be permitted to accept and dispose of waste without installing the landfill gas collection and control system. However, by the time the quantity of waste in place reaches $1.5x10^6$ tons and the VOC emissions from the landfill reach 25 tpy, the landfill gas generation is expected to be adequate to justify the collection and control system. Therefore, the 25 tpy BACT threshold for VOCs in Rule 241 cannot be exceeded until BACT is installed. In advance of reaching that emission rate, the applicant will design, obtain approval for, permit, install and operate an active landfill gas collection and enclosed flare control

1 "Landfill Air Emissions Estimation Model," Version 1.1, prepared under contract to the U.S. EPA by Radian Corporation.

system that will meet the BACT requirements of the County rules and the design and performance requirements of the applicable federal new source performance standard (NSPS). The landfill will then be allowed to accept waste up to its total design capacity.

As discussed above, emissions from the project during its first phase will be limited to 25 tpy of VOCs. However, the potential to emit over the lifetime of the project is equal to the maximum future controlled emissions. Calculation of emissions for both phases is discussed in more detail below.

a. County Rule 241: Permits for New Sources and Modifications to Existing Sources

Maricopa County Rule 241 requires the use of BACT for new or modified non-major sources when emissions exceed threshold limits set forth in the rule. The landfill emissions model has been used with the following input parameters to project future emissions for purposes of determining compliance with this applicable requirement:

Table 1
Landfill Modeling Parameters for Determining Compliance with Rule 241

Parameter	Value	Units	Source
k	0.02	methane generation rate, yr^{-1}	AP-42 default value* for arid areas
L_o	125	methane generation potential, m^3 CH_4/Mg refuse	AP-42 default value*
C_{NMOC}	1170	NMOC concentration in landfill gas, ppmv	AP-42 default value* for landfills having little commercial/industrial waste
C_{ethane}	227.65	ethane concentration in landfill gas, ppmv	AP-42 default value* for landfills having little commercial/industrial waste
C_{VOC}	942.35	VOC concentration in landfill gas, ppmv	C_{NMOC} minus C_{ethane}**

* "Compilation of Air Pollutant Emission Factors," EPA OAQPS, Section 2.4.4.1
** Calculates the VOC concentration by subtracting the ethane concentration from the total NMOC concentration

Based on these initial input assumptions, the landfill is expected to emit 25 tpy of VOCs once there are approximately 1.5 million tons of waste in place in the landfill. The period of time for this emission rate to be reached will vary depending on the rate at which waste is received into the landfill. The applicant's worst-case estimated waste acceptance rate was 4000 tons per day; at this rate the landfill would reach the 25 tpy VOC emission rate level after approximately 12 months of operation. More realistic estimates are that the initial waste acceptance rate will be between 1000 and 2000 tons per day. At this rate, the VOC emissions from the project will reach 25 tpy after two to four years of operation. Methane and VOC emissions predicted by the landfill model for these various waste acceptance rates are shown in Attachment 1.

The initial estimate of VOC emissions based on default values will be refined using site-specific data once these data are collected. The permit requirements for collecting and using the site-specific data are described in more detail in the following sections.

The landfill model also contains default values for concentrations of HAPs and other noncriteria air pollutant emissions, which can be used to calculate emissions of these pollutants from the operation of the landfill. Like total VOC emissions, noncriteria pollutant emissions are also dependent on the values used in the model and the waste acceptance rate. These emissions are based on total landfill gas emissions, so maximum allowable HAP and other noncriteria pollutant emissions from the project can be estimated based on the total volume of landfill gas emissions when VOC emissions reach approximately 25 tpy. Calculation of allowable HAP and other noncriteria pollutant emissions allowed prior to the installation of the landfill gas collection and control system is shown in Attachment 2. HAP emissions from the project during the first phase are summarized in Table 2.

Table 2
Maximum Allowable HAP and Noncriteria Pollutant Emissions During First Phase of Gila Bend Regional Landfill

Compound	Emissions, tpy
1,1,1-trichloroethane	0.019
1,1,2,2-tetrachloroethane	0.057
1,1,2-trichloroethane	0.000
1,1-dichloroethane	0.071
1,1-dichloroethene	0.006
1,2-dichloroethane	0.012
1,2-dichloropropane	0.006
acrylonitrile	0.102
benzene	0.045
carbon disulfide	0.013
carbon tetrachloride	0.000
carbonyl sulfide	0.009
chlorobenzene	0.009
chloroethane	0.024
chloroform	0.001
chloromethane	0.019
dichlorobenzene	0.010
dichloromethane	0.369
ethylbenzene	0.149
hexane	0.172
methyl ethyl ketone	0.155
methyl isobutyl ketone	0.057
perchloroethylene	0.188
toluene	1.099
trichloroethene	0.112
vinyl chloride	0.139
xylene	0.390
Total HAPS	**3.4**

Table 2 Maximum Allowable HAP and Noncriteria Pollutant Emissions During First Phase of Gila Bend Regional Landfill	
Compound	Emissions, tpy
hydrogen sulfide	0.367
mercury	0.000

b. 40 CFR Part 60, Subpart WWW: Standards of Performance for Municipal Waste Landfills

The applicable new source performance standard (NSPS) requires the design, installation and operation of a landfill gas collection system within 18 months of the time the landfill emits 50 megagrams (Mg, or approximately 55 tons) per year of NMOCs[1]. The NSPS requires the use of model input values for determining compliance with this requirement that are significantly higher than those used for evaluating compliance with the BACT requirement. The NSPS allows the landfill owner or operator to perform testing to develop site-specific values for NMOC concentration and methane generation rates to improve the accuracy and representativeness of the emissions estimates. The NMOC emissions calculated using the NSPS default values are not used in determining compliance with County Rule 241.

c. Landfill Potential to Emit

As discussed above, during the first phase of the project, VOC emissions from the project are limited to 25 tpy. However, under the second phase of the project a landfill gas collection and control system will be installed and the landfill may expand to its full design capacity. Conditions in the proposed permit require the applicant to obtain a permit revision for a modification, in accordance with the requirements of Maricopa County Rule 210, and to install and operate an active landfill gas collection and control system prior to exceeding the limits in the current permit. Although the landfill gas collection and control system has not yet been fully designed, the applicant has sufficient information regarding the design of the gas collection and control system that the project's potential to emit at full buildout can be determined. The calculation of maximum potential to emit is based on the assumptions summarized below:

- Maximum capacity of the landfill, provided by the applicant, will be 75 million cubic yards (approximately 46.0 million Mg, or 50.9 million tons[2]) of waste.

- Inputs parameters for the landfill emissions model are shown in Table 1 above.

- For purposes of this analysis, minimum and maximum collection efficiencies for an active landfill gas collection system were assumed to be 75% and 90%, respectively. Although fugitive emissions from the landfill are not considered in calculating emissions for regulatory purposes, 90 percent of the landfill gas is considered collectible. Therefore, if the landfill gas collection system achieves only 75%

1 The NSPS regulates NMOC emissions, while the County rules regulate VOCs. The conversion of model-predicted NMOCs to VOCs for purposes of compliance with County rules was discussed in Subsection a.

2 Landfill capacity is based on the volume of available waste disposal space and the applicant's assumed waste density of 1350 lb/yd^3. The applicant selected this value from a range of standard waste densities, based on the expected composition of the waste to be received at the landfill. While the NSPS uses a default density of approximately 1686 lb/yd^3, site-specific densities may also be used.

collection efficiency, the 15% of the emissions that are considered collectible are included in the emissions calculations as collectible fugitive emissions.

- Emission factors for the enclosed flare control system have been developed based on data provided by John Zink, a flare manufacturer, and an evaluation of other available flare emission data. Emission limits for SO_2 and PM_{10} were selected to keep emissions of those pollutants below the levels at which best available control technology (BACT) would be required. These limits are considered to be achievable based on a comparison of other available flare emissions data. Emission limits for NOx and CO are based on a determination of BACT for the flares. The emission limit for VOC was based on a BACT requirement for 98% destruction of VOCs in the collected landfill gas. Flare emission factors used in the calculation of potential to emit for criteria pollutants are shown in Table 3. Emission factors for HAPs and other noncriteria pollutants are taken from the landfill emissions model; a 98% destruction efficiency for HAPs and VOCs is used for these calculations.

Table 3
Criteria Pollutant Emission Factors for Flare Control System

Emission Factor, lb/MMBtu*				
NOx	SO_2	CO	VOC	PM
0.06	0.018	0.15	0.010	0.011

Note:
* Pounds of pollutant per million Btu of landfill gas combusted in each flare.

Using the input parameters specified in Table 1, the landfill emissions model predicts maximum total uncontrolled VOC generation to be 557 Mg (614 tons) per year and maximum total uncontrolled methane generation to be 83.4×10^6 m^3 (2.95×10^9 ft^3) per year (see Attachment 1). The landfill potential to emit for flare emissions will be highest with 90% capture of the landfill gas, while maximum VOC emissions from the landfill itself will occur with the control system capture efficiency of 75%. Potential to emit for the project is calculated using maximizing assumptions for both sources. These calculations are shown in Attachment 2.

i. Flare emissions

The applicant proposes to install two identical flares to handle the generated landfill gas. Using the maximum total uncontrolled methane generation rate of 2.95×10^9 ft^3, a collection efficiency of 90%, and the flare emission factors shown in Table 3, total potential to emit for the flares is as shown in Table 4. Details of the calculations are shown in Attachment 3.

Table 4
Potential to Emit for Flare Control System
Criteria Pollutant Emissions (Total, Two Flares)

Units	NOx	SO_2	CO	VOC	PM_{10}
Pounds per day	440	132	1100	74	81

Tons per year	80.3	24.1	200.7	13.4	14.7

ii. VOC Emissions from the Landfill Surface

The potential to emit for the landfill surface is the 25% of generated VOC will be emitted if the landfill gas collection system achieves only 75% collection efficiency. Based on a maximum VOC generation rate of 619 tons per year, the landfill potential to emit is 154.7 tons of VOCs per year. Fifteen percent of the VOCs (92.8 tpy) are considered collectible, while the remaining 10% (61.9 tpy) are considered uncollectible fugitive emissions.

iii. HAP and Other Noncriteria Pollutants

HAP and other noncriteria pollutant emissions can also be calculated using the landfill emissions model. The maximum potential to emit will occur when the landfill gas collection efficiency is 75%. Calculation of HAPs and other noncriteria pollutant emissions for both the 75% and 90% collection efficiency cases are shown in Attachment 2. The potentials to emit for these are summarized in Table 5.

Table 5
Emissions of HAP and Other Noncriteria Pollutants at Full Project Buildout

Compound	Emissions, tons per year
1,1,1-trichloroethane	0.08
1,1,2,2-tetrachloroethane	0.24
1,1,2-trichloroethane	0.00
1,1-dichloroethane	0.29
1,1-dichloroethene	0.02
1,2-dichloroethane	0.05
1,2-dichloropropane	0.03
acrylonitrile	0.42
benzene	0.19
bromodichloromethane	0.65
carbon disulfide	0.06
carbon tetrachloride	0.00
carbonyl sulfide	0.04
chlorobenzene	0.04
chloroethane	0.10
chloroform	0.00
chloromethane	1.53
dichlorobenzene	0.04
dichloromethane	1.53
ethylbenzene	0.62
ethylene dibromide	0.00
hexane	0.71
methyl ethyl ketone	0.65
methyl isobutyl ketone	0.24
perchloroethylene	0.78
toluene	4.57
trichloroethylene	0.47
vinyl chloride	0.58
xylene	1.62

Total HAPS	**14.1**
hydrogen sulfide	8.33
mercury	0.00

3. Storage Tanks

Fuel for facility vehicles will be stored on-site in two fuel storage tanks. Gasoline will be stored in a horizontal, fixed-roof 250-gallon tank. Tank throughput will be limited to 1,000 gallons per year. Diesel fuel will be stored in a horizontal, fixed-roof 10,000-gallon storage tank. Diesel tank throughput will be limited to 50,000 gallons per year. Volatile organic compound (VOC) emissions from these storage tanks were calculated using EPA's TANKS3 model (Version 3.1). TANKS3 calculations for storage tank VOC emissions are included in Attachment 4.

There will also be small quantities of VOC emissions from vehicle tank filling activities. For Diesel fuel, these transfer emissions will be negligible. For gasoline, these emissions were estimated using emission factors from EPA's AP-42 emission factor, Table 5.2-7.

VOC emissions from the fuel storage tanks and related activities are summarized in Table 6.

Table 6
VOC Emissions from Storage Tanks and Related Activities

Tank/Activity	VOC Emissions, tpy
Gasoline storage	0.16
Vehicle refueling (gasoline)	5.5×10^{-3}
Diesel fuel storage	4.0×10^{-3}

Leachate collected from the landfill will be stored in eight 20,000-gallon horizontal fixed-roof storage tanks on the property. Total throughput for the eight tanks will not exceed 3.36 million gallons per year. VOC emissions from these tanks were also calculated using the TANKS3 model; the TANKS3 model output is included in Attachment 4. Total emissions from all eight tanks will be approximately 0.02 tons per year.

4. Summary of Project Potential to Emit

Emissions from each source at the facility and total facility emissions under the first phase of the project are shown in Table 7.

Table 7
Criteria Pollutant Emissions for First Phase of Gila Bend Regional Landfill

Emissions Source	Criteria Pollutant Emissions, tons per year				
	NOx	SO_2	CO	VOC	PM/PM_{10}
Landfill	--	--	--	24.7	--
Storage Tanks	--	--	--	0.2	--
Total	0	0	0	24.9	0

Emissions from each source at the facility and facility potential to emit at full buildout are shown in Table 8.

Table 8 Potential to Emit for Gila Bend Regional Landfill at Full Buildout					
Emissions Source	Criteria Pollutant Emissions, tons per year				
	NOx	SO_2	CO	VOC	PM/PM_{10}
Flares	80.3	24.1	200.1	13.4	14.7
Landfill (collectible)	--	--	--	92.8	--
Landfill (uncollectible)	--	--	--	61.9	--
Storage Tanks	--	--	--	0.2	--
Total	80.3	24.1	200.1	168.3	14.7

B. Compliance with Applicable Requirements

The attached Table 9 lists all applicable requirements for the project, indicates whether the requirements are federally enforceable, and indicates the permit condition or conditions that enforce each requirement.

C. Non-Applicable Requirements

The facility is not subject to the requirements of Maricopa County Rule 240 or Prevention of Significant Deterioration (PSD) review under the SIP-approved county PSD rule (Rule 21.D). Federally enforceable permit conditions will limit the emissions from the facility to less than 250 tons per year of any pollutant and the facility is located in an attainment or unclassifiable area, so the facility will not be a major source.

D. BACT Requirements

Maricopa County Rule 241 requires the use of best available control technology (BACT) on new sources or modifications that have the potential to emit or to increase emissions above amounts specified in the rule. This permit contains federally enforceable emissions limitations that will ensure that the emissions from the project remain below the BACT thresholds unless and until BACT is applied to the landfill.

Before VOC emissions from the landfill exceed the 20 ton per year BACT threshold, the applicant will be required to design and install an active landfill gas collection and enclosed flare control system. If necessary, the applicant will be required to curtail or suspend acceptance of waste at the landfill until the collection and control system is in place and operational. Emissions from the flare will trigger BACT for other criteria pollutants. Flare emissions during the second phase of the project (full buildout) are compared with the Rule 241 BACT trigger levels in Table 10.

The active landfill gas collection and enclosed flare collection system is considered best available control technology for the control of landfill gas emissions. Although the collection efficiency of the gas collection system is not measurable, permit conditions that require good housekeeping and operating practices for the gas collection system and

Table 10 Comparison of Flare Emissions with Rule 241 BACT Trigger Levels (Total, Two Flares)					
	NOx	SO_2	CO	VOC	PM_{10}
Flare Emissions, pounds per day	440	132	1100	74	81
BACT Trigger, pounds per day	150	150	550	150	85
Flare Emissions, tons per year	80.3	24.1	200.7	13.4	14.7
BACT Trigger, tons per year	25	25	100	25	15

regular surface monitoring for excessive levels of VOC emissions from the surface of the landfill where the gas collection system is installed will ensure that the control efficiency is maximized. The minimum destruction efficiency of the enclosed flare control system will be 98%. This destruction efficiency will be demonstrated during startup source testing. In addition, permit conditions regarding minimum flare temperature and residence time will ensure continuous compliance with this minimum destruction efficiency.

The comparison of flare emissions with the Rule 241 BACT trigger levels in Table 10 above shows that the flares are not subject to BACT review for SO_2 or PM_{10}.[1] However, emissions of NOx and CO from the flare are above the BACT trigger levels for those pollutants.

The proposed NOx and CO emission limits for the flares have been reviewed and compared with emission limits placed on other enclosed landfill gas flares in permits recently issued by California's South Coast Air Quality Management District (SCAQMD) and others and with the requirements of the SCAQMD's BACT guideline for these sources. The proposed NOx emission limit of 0.06 lb/MMBtu is consistent with the SCAQMD BACT guideline for this pollutant. Because the SCAQMD control requirements are generally very stringent, the proposed NOx limit is considered BACT for this project. For CO, BACT is considered to be good combustion practices consistent with complete combustion and minimizing the formation of CO. As the combustion conditions that will favor optimum destruction (oxidation) of VOCs will also minimize formation of CO, the highly efficient combustion that will be achieved in the flare to achieve the 98% destruction efficiency for VOCs will achieve BACT for CO as well. A summary of the information reviewed can be found in Attachment 5. Based on these data, the proposed flare emission limits and destruction efficiency are determined to be BACT for this project.

1 The SO_2 and PM_{10} limits in the permit have been imposed to keep total emissions of these pollutants below BACT trigger levels. If higher emission limits are sought in the future for these pollutants, the project will be subject to BACT review for those pollutants.

E. Insignificant Activities and Exemptions

The following potential activities at the landfill qualify as insignificant activities under Maricopa County Rule 200, Section 303.3 (c).

- Fugitive dust from the operation of motor vehicles, if proper dust control measures are applied
- Emissions from routine maintenance and equipment repair
- Activities associated with the construction, on-site repair, maintenance or dismantling of buildings; control equipment; utility lines; pipelines; well excavation; electrical structures; and miscellaneous processes except construction or dismantling of asbestos-containing structures
- Railroad maintenance activities (except for surface coating and solvent cleaning activities subject to the requirements of Rules 331, 335 and 336)
- Comfort heating having individual or aggregate heat input capacity below the thresholds in Rule 200, Section 303.3(c)(1)
- Individual emission points or activities including individual sampling points, analyzers and process instrumentation, where operation of these units may result in emissions; and individual flanges, valves, pump seals, pressure relief valves, and other components that may have a potential for leaks
- Battery recharging
- Impoundments, such as storm water retention ponds
- Safety equipment such as fire extinguishers
- General vehicle maintenance and servicing activities, except vehicle repainting and solvent cleaning activities subject to the requirements of Rules 335 and 336
- Circuit breakers
- Engines used to propel motor vehicles
- Use of pesticides, fumigants and herbicides
- Restroom facilities and sewer gas vents
- All office equipment such as white-out, adhesives, printer and copier toner, etc.
- Acid and solvent storage cabinets
- Air compressors, provided any internal combustion engines have a manufacturer's maximum continuous rating that do not exceed the thresholds in Rule 200, Section 303.3(c)(5)(a)
- Piping systems for fuel
- Storage and handling of drums or other transportable containers where the volume of the container does not exceed five gallons and the containers are sealed during storage and transport
- Transportation of waste materials
- Smoking areas
- Sealed air conditioning and cooling equipment servicing and use, as long as servicing is not subject to Title VI requirements; sealed hydraulic systems servicing and use
- Transferring chemicals from larger to smaller containers; transferring chemicals from smaller to larger containers
- Health services activities (first aid, nursing, medical, etc.)
- Soil gas and groundwater sampling

The gasoline storage tank is exempt from the vapor recovery requirements of Rule 353 because the annual tank throughput will be limited to 1,000 gallons per year by a federally enforceable permit condition.

F. Alternative Operating Scenarios

There is only one operating scenario for the landfill. No alternative operating scenarios have been requested or approved.

G. Significant Permit Conditions

The following is a summary of the special permit conditions that are proposed to ensure that the landfill operations comply with all applicable requirements. The complete permit conditions are included in Section II of this report.

1. The applicant will be required to comply with all conditions of the approved Dust Control Plan throughout the life of the project. Fugitive dust controls, including but not limited to the reasonably available control measures identified in the Dust Control Plan, shall be applicable to all disturbed surfaces of the landfill.
2. VOC emissions from the project (landfill emissions plus storage tank emissions) will not be allowed to exceed 25 tpy unless and until a landfill gas collection control system has been installed.
3. The applicant will be required to evaluate VOC emissions from the landfill using EPA's Landfill Emissions Estimation Model and prescribed values for model variables. The modeling will be updated annually using actual waste in place and projected waste receipts for the next two years. The estimated emissions will be reported to the County annually.
4. Within 60 days of the date the VOC emissions from the landfill are estimated to equal 20 tons per year, the applicant will be required to perform Tier 2 testing (as defined in 40 CFR Part 60 Subpart WWW). Prior to undertaking the Tier 2 testing program, the applicant must submit a test protocol to the County for approval. Following completion of the test program, a report of the program results and recommendations must also be submitted to the County. The site-specific value of C_{VOC} developed during this test program will then be used to prepare a revised estimate of VOC emissions from the landfill.
5. On or before the date the VOC emissions from the landfill are estimated to equal 20 tons per year using the site-specific C_{VOC} value, the applicant will be required to submit to the County a design and installation schedule for a landfill gas collection and control system and an application for a modification to this permit. The landfill gas collection system must meet the requirements of 40 CFR Part 60 Subpart WWW and of Maricopa County Rule 241.
6. Once the VOC emissions from the landfill are estimated to equal 20 tons per year using the site-specific C_{VOC} value, the applicant will be required to provide VOC emissions reports to the County on a monthly basis. The applicant must continue to report VOC emissions monthly until the landfill gas collection and control system is in place and successfully completes its initial performance tests.

7. If at any time during a calendar year the quantity of waste received at the landfill exceeds the quantity projected in the previous calendar year's emissions calculation report to the County, the applicant will be required to reevaluate projected emissions from the landfill for the calendar year and to submit a revised emissions report to the County within 30 days of the date the exceedance is discovered.
8. The applicant will be required to comply with the requirements of 40 CFR Part 60 Subpart WWW.
9. The applicant will be required to maintain records of monthly fuel deliveries to the facility, and to provide a summary report of storage tank throughput at the end of each calendar year.
10. The applicant will be required to implement good operating practices to minimize emissions from the landfill. The operating practices and standards will be described in an operating and maintenance plan that will be prepared and submitted to the County within 30 days after startup of the landfill gas collection and control system.
11. The applicant will be required to comply with the applicable requirements of 40 CFR Part 61, Subpart M for the disposal of asbestos-containing waste.

DRAFT

Attachment 1: Landfill Emissions Model Predictions of Methane and VOC Emissions for Maximum Expected Waste Acceptance Rate

Source:
M:\PC\LANDFILL\Vl.l\GILACO.PRM

Model Parameters

Lo : 125-00 m^3 / Mg ***** User Mode Selection
k : 0.0200 1/yr ***** User Mode Selection *****
NMOC : 1170.00 ppmv ***** User Mode Selection
Methane : 50.0000 % volume
Carbon Dioxide: 50.0000 % volume
Air Pollutant: VOC
Molecular Wt = 86.17 Concentration = 942.350000 ppmV

Landfill Parameters

Landfill type: No **Co-Disposal**
Year Opened : 1998 Current Year : 2050 Closure Year: 2050
Capacity: 46026280 Mg
Average Acceptance Rate Required from
Current Year to Closure Year 0.00 Mg/year

Model Results

Year	Refuse In Place (Mg)	VOC Emission Rate (Mg/yr)	VOC Emission Rate (Cubic m/yr)
1999	1.324E+06	2.237E+01	6.241E+03
2000	2.649E+06	4.429E+01	1.236E+04
2001	3.973E+06	6.578E+01	1.835E+04
2002	5.298E+06	8.684E+01	2.423E+04
2003	6.622E+06	1.075E+02	2.999E+04
2004	7.947E+06	1.277E+02	3.564E+04
2005	9.271E+06	1.476E+02	4.117E+04
2006	1.060E+07	1.670E+02	4.660E+04
2007	1.192E+07	1.861E+02	5.192E+04
2008	1.324E+07	2.048E+02	5.713E+04
2009	1.457E+07	2.231E+02	6.224E+04
2010	1.589E+07	2.410E+02	6.725E+04
2011	1.722E+07	2.586E+02	7.216E+04
2012	1.854E+07	2.759E+02	7.697E+04
2013	1.987E+07	2.928E+02	8.168E+04
2014	2.119E+07	3.093E+02	8.631E+04
2015	2.252E+07	3.256E+02	9.084E+04
2016	2.384E+07	3.415E+02	9.528E+04
2017	2.517E+07	3.571E+02	9.964E+04
2018	2.649E+07	3.724E+02	1.039E+05
2019	2.781E+07	3.874E+02	1.081E+05
2020	2.914E+07	4.021E+02	1.122E+05
2021	3.046E+07	4.165E+02	1.162E+05
2022	3.179E+07	4.306E+02	1.201E+05
2023	3.311E+07	4.444E+02	1.240E+05
2024	3.444E+07	4.580E+02	1.278E+05
2025	3.576E+07	4.713E+02	1.315E+05
2026	3.709E+07	4.843E+02	1.351E+05
2027	3.841E+07	4.971E+02	1.387E+05
2028	3.973E+07	5.096E+02	1.422E+05

Year	Refuse In Place (Mg)	(Mg/yr)	(Cubic m/yr)
2029	4.106E+07	5.219E+02	1.456E+05
2030	4.238E+07	5.340E+02	1.490E+05
2031	4.371E+07	5.457E+02	1.523E+05
2032	4.503E+07	5.573E+02	1.555E+05
2033	4.603E+07	5.631E+02	1.571E+05
2034	4.603E+07	5.519E+02	1.540E+05
2035	4.603E+07	5.410E+02	1.509E+05
2036	4.603E+07	5.303E+02	1.480E+05
2037	4.603E+07	5.198E+02	1.450E+05
2038	4.603E+07	5.095E+02	1.421E+05
2039	4.603E+07	4.994E+02	1.393E+05
2040	4.603E+07	4.895E+02	1.366E+05
2041	4.603E+07	4.798E+02	1.339E+05
2042	4.603E+07	4.703E+02	1.312E+05
2043	4.603E+07	4.610E+02	1.286E+05
2044	4.603E+07	4.519E+02	1.261E+05
2045	4.603E+07	4.429E+02	1.236E+05
2046	4.603E+07	4.341E+02	1.211E+05
2047	4.603E+07	4.255E+02	1.187E+05
2048	4.603E+07	4.171E+02	1.164E+05
2049	4.603E+07	4.089E+02	1.141E+05
2050	4.603E+07	4.008E+02	1.118E+05
2051	4.603E+07	3.928E+02	1.096E+05
2052	4.603E+07	3.850E+02	1.074E+05
2053	4.603E+07	3.774E+02	1.053E+05
2054	4.603E+07	3.700E+02	1.032E+05
2055	4.603E+07	3.626E+02	1.012E+05
2056	4.603E+07	3.554E+02	9.917E+04
2057	4.603E+07	3.484E+02	9.721E+04
2058	4.603E+07	3.415E+02	9.529E+04
2059	4.603E+07	3.347E+02	9.340E+04
2060	4.603E+07	3.281E+02	9.155E+04
2061	4.603E+07	3.216E+02	8.974E+04
2062	4.603E+07	3.153E+02	8.796E+04
2063	4.603E+07	3.090E+02	8.622E+04
2064	4.603E+07	3.029E+02	8.451E+04
2065	4.603E+07	2.969E+02	8.284E+04
2066	4.603E+07	2.910E+02	8.120E+04
2067	4.603E+07	2.853E+02	7.959E+04
2068	4.603E+07	2.796E+02	7.801E+04
2069	4.603E+07	2.741E+02	7.647E+04
2070	4.603E+07	2.686E+02	7.495E+04
2071	4.603E+07	2.633E+02	7.347E+04
2072	4.603E+07	2.581E+02	7.202E+04
2073	4.603E+07	2.530E+02	7.059E+04
2074	4.603E+07	2.480E+02	6.919E+04
2075	4.603E+07	2.431E+02	6.782E+04
2076	4.603E+07	2.383E+02	6.648E+04
2077	4.603E+07	2.335E+02	6.516E+04
2078	4.603E+07	2.289E+02	6.387E+04
2079	4.603E+07	2.244E+02	6.261E+04
2080	4.603E+07	2.199E+02	6.137E+04
2081	4.603E+07	2.156E+02	6.015E+04
2082	4.603E+07	2.113E+02	**5.896E+04**
2083	4.603E+07	2.071E+02	5.779E+04
2084	4.603E+07	2.030E+02	5.665E+04
2085	4.603E+07	1.990E+02	5.553E+04
2086	4.603E+07	1.951E+02	5.443E+04

2087	4.603E+07	1.912E+02	5.335E+04
2088	4.603E+07	1.874E+02	5.229E+04
2089	4.603E+07	1.837E+02	5.126E+04
2090	4.603E+07	1.801E+02	5.024E+04
2091	4.603E+07	1.765E+02	4.925E+04
2092	4.603E+07	1.730E+02	4.827E+04
2093	4.603E+07	1.696E+02	4.732E+04
2094	4.603E+07	1.662E+02	4.638E+04
2095	4.603E+07	1.629E+02	4.546E+04
2096	4.603E+07	1.597E+02	4.456E+04
2097	4.603E+07	1.563E+02	4.368E+04
2098	4.603E+07	1.534E+02	4.281E+04
2099	4.603E+07	1.504E+02	4.197E+04
2100	4.603E+07	1.474E+02	4.114E+04
2101	4.603E+07	1.445E+02	4.032E+04
2102	4.603E+07	1.417E+02	3.952E+04
2103	4.603E+07	1.388E+02	3.874E+04
2104	4.603E+07	1.361E+02	3.797E+04
2105	4.603E+07	1.334E+02	3.722E+04
2106	4.603E+07	1.308E+02	3.648E+04
2107	4.603E+07	1.282E+02	3.576E+04
2108	4.603E+07	1.256F.+02	3.505E+04
2109	4.603E+07	1.231E+02	3.436E+04
2110	4.603E+07	1.207E+02	3.368E+04

Model Parameters

Lo: 125.00 m^3 Mg User Mode Selection
k: 0.0200 1/yr ***** UserMode Selection
*****
NMOC : 942.35 ppmv ***** User Mode Selection
Methane : 50-0000 % volume
Carbon Dioxide : 50.0000 % volume

Landfill Parameters

Landfill type : No Co-Disposal
Year Opened : 1998 Current Year : 2050 Closure Year: 2050
Capacity : 46026280 Mg
Average Acceptance Rate Required from
Current Year to Closure Year 0.00 Mg/year

Model Results

Year	Refuse In Place (Mg)	Methane Emission Rate (Mg/yr)	Methane Emission Rate (Cubic m/yr)
1999	1.324E+06	2.209E+03	3.311E+06
2000	2.649E+06	4.374E+03	6.557E+06
2001	3.973E+06	6.497E+03	9.738E+06
2002	5.298E+06	8.577E+03	1.286E+07
2003	6.622E+06	1.062E+04	1.591E+07
2004	7.947E+06	1.262E+04	1.891E+07
2005	9.271E+06	1.457E+04	2.185E+07
2006	1.060E+07	1.650E+04	2.472E+07
2007	1.192E+07	1.838E+04	2.755E+07
2008	1.324E+07	2.022E+04	3.031E+07
2009	1.457E+07	2.203E+04	3.302E+07
2010	1.589E+07	2.380E+04	3.568E+07
2011	1.722E+07	2.554E+04	3.829E+07
2012	1.854E+07	2.725E+04	4.084E+07
2013	1.987E+07	2.891E+04	4.334E+07
2014	2.119E+07	3.055E+04	4.579E+07
2015	2.252E+07	3.216E+04	4.820E+07
2016	2.384E+07	3.373E+04	5.056E+07
2017	2.517E+07	3.527E+04	5.287E+07
2018	2.649E+07	3.678E+04	5.513E+07
2019	2.781E+07	3.826E+04	5.735E+07
2020	2.914E+07	3.971E+04	5.953E+07
2021	3.046E+07	4.113E+04	6.166E+07
2022	3.179E+07	4.253E+04	6.375E+07
2023	3.311E+07	4.390E+04	6.580E+07
2024	3.444E+07	4.524E+04	6.781E+07
2025	3.576E+07	4.655E+04	6.977E+07
2026	3.709E+07	4.784E+04	7.170E+07
2027	3.841E+07	4.910E+04	7.359E+07
2028	3.973E+07	5.034E+04	7.545E+07
2029	4.106E+07	5.155E+04	7.727E+07
2030	4.238E+07	5.274E+04	7.905E+07
2031	4.371E+07	5.390E+04	8.079E+07
2032	4.503E+07	5.504E+04	8.250E+07
2033	4.603E+07	5.561E+04	8.336E+07
2034	4.603E+07	5.451E+04	8.170E+07
2035	4.603E+07	5.343E+04	8.009E+07
2036	4.603E+07	5.237E+04	7.850E+07
2037	4.603E+07	5.133E+04	7.695E+07
2038	4.603E+07	5.032E+04	7.542E+07

2039	4.603E+07	4.932E+04	7.393E+07
Year	Refuse In Place (Mg)	(mg/yr)	(Cubic m/yr)
2040	4.603E+07	4.835E+04	7.247E+07
2041	4.603E+07	4.739E+04	7.103E+07
2042	4.603E+07	4.645E+04	6.962E+07
2043	4.603E+07	4.553E+04	6.825E+07
2044	4.603E+07	4.463E+04	6.689E+07
2045	4.603E+07	4.374E+04	6.557E+07
2046	4.603E+07	4.288E+04	6.427E+07
2047	4.603E+07	4.203E+04	6.300E+07
2048	4.603E+07	4.120E+04	6.175E+07
2049	4.603E+07	4.038E+04	6.053E+07
2050	4.603E+07	3.958E+04	5.933E+07
2051	4.603E+07	3.880E+04	5.815E+07
2052	4.603E+07	3.803E+04	5.700E+07
2053	4.603E+07	3.728E+04	5.587E+07
2054	4.603E+07	3.654E+04	5,477E+07
2055	4.603E+07	3.581E+04	5.368E+07
2056	4.603E+07	3.511E+04	5.262E+07
2057	4.603E+07	3.441E+04	5.158E+07
2058	4.603E+07	3.373E+04	5.056E+07
2059	4.603E+07	3.306E+04	4.956E+07
2060	4.603E+07	3.241E+04	4.858E+07
2061	4.603E+07	3.177E+04	4.761E+07
2062	4.603E+07	3.114E+04	4.667E+07
2063	4.603E+07	3.052E+04	4.575E+07
2064	4.603E+07	2.992E+04	4.484E+07
2065	4.603E+07	2.932E+04	4.395E+07
2066	4.603E+07	2.874E+04	4.308E+07
2067	4.603E+07	2.817E+04	4.223E+07
2068	4.603E+07	2.762E+04	4.139E+07
2069	4.603E+07	2.707E+04	4.057E+07
2070	4.603E+07	2.653E+04	3.977E+07
2071	4.603E+07	2.601E+04	3.898E+07
2072	4.603E+07	2.549E+04	3.821E+07
2073	4.603E+07	2.499E+04	3.745E+07
2074	4.603E+07	2.449E+04	3.671E+07
2075	4.603E+07	2.401E+04	3.599E+07
2076	4.603E+07	2.353E+04	3.527E+07
2077	4.603E+07	2.307E+04	3.457E+07
2078	4.603E+07	2.261E+04	3.389E+07
2079	4.603E+07	2.216E+04	3.322E+07
2080	4.603E+07	2.172E+04	3.256E+07
2081	4.603E+07	2.129E+04	3.192E+07
2082	4.603E+07	2.087E+04	3.128E+07
2083	4.603E+07	2.046E+04	3.066E+07
2084	4.603E+07	2.005E+04	3.006E+07
2085	4.603E+07	1.966E+04	2.946E+07
2086	4.603E+07	1.927E+04	2.888E+07
2087	4.603E+07	1.888E+04	2.831E+07
2088	4.603E+07	1.851E+04	2.775E+07
2089	4.603E+07	1.814E+04	2.720E+07
2090	4.603E+07	1.779E+04	2.666E+07
2091	4.603E+07	1.743E+04	2.613E+07
2092	4.603E+07	1.709E+04	2.561E+07
2093	4.603E+07	1.675E+04	2.511E+07
2094	4.603E+07	1.642E+04	2.461E+07
2095	4.603E+07	1.609E+04	2.412E+07

2096	4.603E+07	1.577E+04	2.364E+07
Year	Refuse In Place (Mg)	(mg/yr)	(Cubic m/yr)
2097	4.603E+07	1.546E+04	2.318E+07
2098	4.603E+07	1.516E+04	2.272E+07
2099	4.603E+07	1.486E+04	2.227E+07
2100	4.603E+07	1.456E+04	2.183E+07
2101	4.603E+07	1.427E+04	2.139E+07
2102	4.603E+07	1.399E+04	2.097E+07
2103	4.603E+07	1.371E+04	2.056E+07
2104	4.603E+07	1.344E+04	2.015E+07
2105	4.603E+07	1.318E+04	1.975E+07
2106	4.603E+07	1.291E+04	1.936E+07
2107	4.603E+07	1.266E+04	1.897E+07
2108	4.603E+07	1.241E+04	1.860E+07
2109	4.603E+07	1.216E+04	1.823E+07
2110	4.603E+07	1.192E+04	1.787E+07
2111	4.603E+07	1.169E+04	1.752E+07
2112	4.603E+07	1.145E+04	1.717E+07

Attachment 2: Calculation of Noncriteria Pollutant Emissions

Calculation of HAPS Emissions from Gila Bend Regional Landfill Based on 2.5 million tons of waste in place
Maximum 25 tpy of NMOC emissions w/o control
6.62E+06 m3/yr of landfill gas
2.34E+08 ft3/yr of landfill gas
3.85E+02 ft3/mole at standard conditions

Compound	Molecular Weight, IbAb-mole	Concentration, ppmv	Emissions, tpy
1, 1, 1 -trichloroethane	133.41	0.48	0.019
1, 1,2,2-tetrachloroethane	167.85	1.11	0.057
1, 1,2-trichloroethane	133.41	0.01	0.000
1, 1 -dichloroethans	98.96	2.35	0.071
1, 1 -dicholorethene	96.94	0.20	0.006
1,2-dichloroethane	98.96	0.41	0.012
1,2-dichloropropane	112.99	0.18	0.006
acrylonitrile	53.06	6.33	0.102
benzene	78.12	1.91	0.045
bromodichloromethane	163.83	3.13	0.156
carbon disulfide	76.14	0.58	0.013
carbon tetrachloride	153.84	0.004	0.000
carbonyl sulfide	60.07	0.49	0.009
chlorobenzene	112.56	0.25	0.009
chloroethane	64.52	1.25	0.024
chloroform	119.38	0.02	0.001
chloromethane	50.49	1.21	0.019
dichlorobenzene	147.00	0.21	0.010
dichloromethane	84.93	14.30	0.369
ethylbenzene	106.17	4.61	0.149
ethylene dibromide	187.88	0.001	0.000
hexane	86.18	6.57	0.172
methyl ethyl ketone	72.11	7.09	0.155
methyl isobutyl ketone	100.16	1.87	0.057
perchloroethylene	165.83	3.73	0.188
toluene	92.14	39.30	1.099
trichloroethene	131.29	2.82	0.112
vinyl chloride	62.50	7.34	0.139
xylene	106.17	12.10	0.390
Total			3.4
Other Noncriteria Pollutants			
hydrogen sulfide	34.08	35.50	0.367
mercury	200.61	0.000253	0.000

Calculation of HAPS Emissions from Title V Permit - Landfill
Based on maximum landfill gas generation and 75% collection efficiency

1.67E+08 m3lyr of landfill gas
5.89E+09 ft3/yr of landfill gas
3.85E+02 ft3/mole at standard conditions

Fugitive Emissions

Compound	Molecular Weight IbAb-mole	Concentration, ppmv	Emissions tpy
1, 1, 1 -trichloroethane	133.41	0.48	0.073
1, 1, 2,2-tetrachloroethane	167.85	1.11	0.214
1, 1,2-trichloroethane	133.41	0.01	0.002
1, 1 -dichloroethane	98.96	2.35	0.267
1, 1 -dicholorethene	96.94	0.20	0.022
1,2-dichloroethane	98.96	0.41	0.046
1,2-dichloropropane	112.99	0.18	0.023
acrylonitrile	53.06	6.33	0.385
benzene	78.12	1.91	0.171
bromodichloromethane	163.83	3.13	0.588
carbon disulfide	76.14	0.58	0.051
carbon tetrachloride	153.84	0.004	0.001
carbonyl sulfide	60.07	0.49	0.034
chlorobenzene	112.56	0.25	0.033
chloroethane	64.52	1.25	0.093
chloroform	119.38	0.02	0.003
chloromethane	50.49	1.21	0.070
dichlorobenzene	147.00	0.21	0.036
dichloromethane	84.93	14.30	1.393
ethylbenzene	106.17	4.61	0.561
ethylene dibromide	187.88	0.001	0.000
hexane	86.18	6.57	0.650
methyl ethyl ketone	72.11	7.09	0.587
methyl isobutyl ketone	100.16	1.87	0.215
perchloroethylene	165.83	3.73	0.710
toluene	92.14	39.30	4.154
trichloroethene	131.29	2.82	0.425
vinyl chloride	62.50	7.34	0.526
xylene	106.17	12.1 0	1.474
Total			12.8
Other Noncriteria Pollutants			
hydrogen sulfide	34.08	35.50	1.39
mercury	200.61	0.000253	0.00

Calculation of HAPS Emissions from Gila Bend Regional Landfill
Based on maximum landfill gas generation and 75% collection efficiency

1. 67E+08 m3/yr of landfill gas
5.89E+09 ft3/yr of landfill gas
3.85E+02 ft3/mole at standard conditions

Flare Emissions

Compound	Molecular Weight, IbIlb-mole	Concentration, ppmV	Emissions tpy
1, 1, 1 -trichloroethane	133.41	0.48	0.007
1, 1,2,2-tetrachloroethane	167.85	1.11	0.021
1, 1,2-trichloroethane	133.41	0.01	0.000
1,11-dichloroethane	98.96	2.35	0.027
1, 1 -dicholorethene	96.94	0.20	0.002
1,2-dichloroethane	98.96	0.41	0.005
1,2-dichloropropan'e	112.99	0.18	0.002
acrylonitrile	53.06	6.33	0.039
benzene	78.12	1.91	0.017
bromodichloromethane	163.83	3.13	0.059
carbon disuffide	76.14	0.58	0.005
carbon tetrachlodde	153.84	0.004	0.000
carbonyl sulfide	60.07	0.49	0.003
chlorobenzene	112.56	0.25	0.003
chloroethane	64.52	1.25	0.009
chloroform	119.38	0.02	0.000
chloromethane	50.49	1.21	0.007
dichlorobenzene	147.00	0.21	0.004
dichloromethane	84.93	14.30	0.139
ethylbenzene	106.17	4.61	0.056
ethylene dibromide	187.88	0.001	0.000
hexane	86.18	6.57	0.065
methyl ethyl ketone	72.11	7.09	0.059
methyl isobutyl ketone	100.16	1.87	0.021
perchloroethylene	165.83	3.73	0.071
toluene	92.14	39.30	0.415
trichloroethene	131.29	2.82	0.042
vinyl chloride	62.50	7.34	0.053
xylene	106.17	12.10	0.147
Total			1.3
Other Noncriteria Pollutants			
hydrogen sulfide	34.08	35.50	6.94
mercury	200.61	0.000253	0.00

Calculation of HAPS Emissions from Gila Bend Regional Landfill
Based on maximum landfill gas generation and 75% collection efficiency

1.67E+08 m3/yr of landfill gas
5.89E+09 ft3/yr of landfill gas
3.85E+02 ft3/mole at standard conditions

Total **Potential to Emit**

	Total, tpy
1, 1, 1 -trichloroethane	0.08
1, 1,2,2-tettrachloroethane	0.24
1, 1,2-trichloroethane	0.00
1, 1 -dichloroethane	0.29
1, 1 -dicholorethene	0.02
1,2-dichloroethane	0.05
1,2-dichloropropane	0.03
acrylonitrile	0.42
benzene	0.19
bromodichloromethane	0.65
carbon disulfide	0.06
carbon tetrachloride	0.00
carbonyl sulfide	0.04
chlorobenzene	0.04
chloroethane	0.10
chloroform	0.00
chloromethane	0.08
dichlorobenzene	0.04
dichloromethane	1.53
ethylbenzene	0.62
ethylene dibromide	0.00
hexane	0.71
methyl ethyl ketone	0.65
methyl isobutyl ketone	0.24
perchloroethylene	0.78
toluene	4.57
trichloroethene	0.47
vinyl chloride	0.58
xylene	1.62
Total	14.1
Other Noncriteria Pollutants	
hydrogen sulfide	8.33
mercury	0.00

Calculation of HAPS Emissions from Gila Bend Regional Landfill
Based on maximum landfill gas generation and 90% collection efficiency

1.67E+08 m3/yr of landfill gas
5.89E+09 ft3/yr of landfill gas
3.85E+02 ft3/mole at standard conditions

Fugitive Emissions: none

Flare Emissions

Compound	Molecular Weight, IbAb-mole	Concentration, ppmv	Emissions, tpy
1, 1, 1 -trichloroethane	133.41	0.48	0.009
1, 1, 2,2-tetrachloroethane	167.85	1.11	0.026
1, 1,2-trichloroethane	133.41	0.01	0.000
1, 1 -dichloroethane	98.96	2.35	0.032
1, 1 -dicholorethene	96.94	0.20	0.003
1,2-dichloroethane	98.96	0.41	0.006
1,2-dichloropropane	112.99	0.18	0.003
acrylonitrile	53.06	6.33	0.046
benzene	78.12	1.91	0.021
bromodichloromethane	163.83	3.13	0.071
carbon disulfide	76.14	0.58	0.006
carbon tetrachloride	153.84	0.004	0.000
carbonyl sulfide	60.07	0.49	0.004
chlorobenzene	112.56	0.25	0.004
chloroethane	64.52	1.25	0.011
chloroform	119.38	0.02	0.000
chloromethane	50.49	1.21	0.008
dichlorobenzene	147.00	0.21	0.004
dichloromethane	84.93	14.30	0.167
ethylbenzene	106.17	4.61	0.067
ethylene dibromide	187.88	0.001	0.000
hexane	86.18	6.57	0.078
methyl ethyl ketone	72.11	7.09	0.070
methyl isobutyl ketone	100.16	1.87	0.026
perchloroethylene	165.83	3.73	0.085
toluene	92.14	39.30	0.498
trichloroethene	131.29	2.82	0.051
vinyl chloride	62.50	7.34	0.063
xylene	106.17	12.10	0.177
Total			1.54
hydrogen sulfide	34.08	35.50	0.17
mercury	200.61	0.000253	0.00

Summary of Project Emissions
Includes Collectible Fugitive
Landfill Gas Emissions
(75% Collection Efficiency)

		Daily Emissions (lbs/day)					Annual Emissions (tons/yr)				
Source Number	Source Description	NOx	CO	VOC	SOX	PM10	NOx	CO	VOC	SOX	PM10
1	Gasoline storage tank			0.89					0.16		
	Vehicle refueling			0.03					0.01		
2	Diesel storage tank			0.02					0.02		
3	Flare	183.26	458.15	30.54	54.96	33.60	33.44	83.61	5.57	10.03	6.13
4	Flare	183.26	458.15	30.54	54.98	33.60	33.44	83.61	5.57	10.03	6.13
5	Fugitive (collectlbie)*			508.59					92.82		
	Fugitive (uncollectible)**			339.06					61.88		
6-13	Leachate storage tanks			0.12					0.02		
Total***		366.52	916.30	570.74	109.96	67.20	66.89	167.22	104.18	20.07	12.26

Revised Emission Summary
Includes Fugitive Landfill Gas Emissions
(80% Collection Efficiency)

		Daily Emissions (lbs/day)					Annual Emissions (tons/yr)				
Source Number	Source Description	NOx	CO	VOC	SOX	PM10	NOx	CO	VOC	SOX	PM10
1	Gasoline storage tank			0.89					0.16		
	Vehicle refueling			0.03					0.01		
2	Diesel storage tank			0.02					0.00		
3	Flare	195.48	488.69	32.58	58.64	35.84	35.67	89.19	5.95	10.70	6.54
4	Flare	195.48	488.69	32.58	58.64	35.84	35.67	89.19	5.95	10.70	6.54
5	Fugitive (collectible)*			339.06					61.88		
	Fugitive (uncollectible)**			339.06					61.88		
6-13	Leachate storage tanks			0.12					0.02		
Total***		390.95	977.38	405.28	117.29	71.67	71.35	178.37	73.96	21.40	13.08

*

Revised Emission Summary
Includes Fugitive Landfill Gas Emissions
Based on Information in Application
(85% Collection Efficiency)

Source Number	Source Description	Daily Emissions (lbs/day) NOx	CO	VOC	SOX	PM10	Annual Emissions (tons/yr) NOx	CO	VOC	SOX	PM10
1	Gasoline storage tank			0.89					0.16		
	Vehicle refueling			0.03					0.01		
2	Diesel storage tank			0.02					0.00		
3	Flare	207.69	519.24	34.62	62.31	38.08	37.90	94.76	6.32	11.37	6.95
4	Flare	207.69	519.24	34.62	62.31	38.08	37.90	94.76	6.32	11.37	6.95
5	Fugitive (collectible)*			169.53					30.94		
	Fugitive (uncollectible)**			339.06					61.88		
6-13	Leachate storage tanks			0.12					0.02		
Total***		415.39	1038.47	239.82	124.62	76.15	75.81	189.52	43.77	22.74	13.90

Summary of Project Emissions
Includes Collectible Fugitive Landfill Gas Emissions
(90% Collection Efficiency)

Source Number	Source Description	Daily Emissions (lbs/day) NOx	CO	VOC	SOX	PM10	Annual Emissions (tons/yr) NOx	CO	VOC	SOX	PM10
1	Gasoline storage tank			0.89					0.16		
	Vehicle refueling			0.03					0.01		
2	Diesel storage tank			0.02					0.00		
3	Flare	219.91	549.78	36.65	65.97	40.32	40.13	100.33	6.69	12.04	7.36
4	Flare	219.91	549.78	36.65	65.97	40.32	40.13	100.33	6.69	12.04	7.36
5	Fugitive (collectible)*			0					0.00		
	Fugitive (uncollectible)**			339.06					61.88		
6-13	Leachate storage tanks			0.12					0.02		
Total***		439.82	1099.56	74.36	131.95	80.63	80.27	200.67	13.57	24.08	14.72

Notes: *EPA believes that 90% of landfill gas Is collectible, and that "collectible" gas is not considered fugitive emissions. Thus "collectible" fugitives, which are considered point source emissions, are calculated as the difference between what is emitted under the proposed collection system efficiency and what would be emitted if the collection system achieved 90% efficiency.

**"Uncollectible" fugitives are the 10% of landfill gas emissions that cannot reasonably be collected and made to pass through a stack.

***"Total" includes "collectible" fugitives, per EPA.

TANKS IDENTIFICATION AND PHYSICAL CHARACTERISTICS

Identification
- Identification No.: gasoline
- City: Gila Bend
- State: AZ
- Company: Gila Bond Regional Landfill
- Type of Tank: Horizontal Fixed Roof
- Description: gasoline storage tank

Tank Dimensions
- Shell Length (ft): 5.0
- Diameter (ft): 3.0
- Volume(gallons): 250
- Is tank underground?(Y/N): N
- Turnovers: 4.0
- Not Throughput (gal/yr): 1000

Paint Characteristics
- Shell Color/Shade: White/White
- Shell Condition: Good

Breather Vent Settings
- Vacuum setting (psig): 0.00
- Pressure Setting (psig): 0.00

Meteorologicat Data Used In Emission Calculations: Phoenix, Arizona (Avg Atmospheric Pressure = 14.7 psia)

LIQUID CONTENTS OF STORAGE TANK

Mixture/ Component	Month	Daily Liquid Surf. Temperatures (deg F) Avg.	Min.	Max.	Liquid Bulk Temp. (deg F)	Vapor Pressures (psia) Avg.	Min.	Max.	Vapor Mol. Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
gasoline	All	73.72	66.49	80.95	71.22	8.8126	7.7216	10.0222	92.000				
Gasoline (RVP 13)						8.8126	7.7216	10.0222		1.0000	1.0000	92.00	Option 4: RVP=13.00, ASTM Slope=2.5

Annual Emissions Report

Liquid Contents	Losses (lbs.): Standing	Working	Total
gasoline	303.76	19.30	323.06
Gasoline (RVP 13)	303.76	19.30	323.06
Total:	303.76	19.30	323.06

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EMISSIONS REPORT - SUMMARY FORMAT PAGE 1
TANK IDENTIFICATION AND PHYSICAL CHARACTERISTICS

Identification

Identification No.:	EP #2
City:	Gila Bend
State:	AZ
Company:	Gila Bend Regional Landfill
Type of Tank:	Horizontal Fixed Roof
Description:	Diesel storage tank

Tank Dimensions

Shell Length (ft):	18.0
Diameter (ft):	10.0
Volume(gallons):	10000
Is tank underground? (Y/N):	N
Turnovers:	5.0
Not Throughput (gat/yr):	50000

Paint Characteristics

Shell Color/Shade:	White/White
Shell Condition:	Good

Breather Vent Settings

Vacuum Setting (psig):	0.00
Pressure Setting (psig):	0.00

Meteorological Data Used in Emission calculations: Phoenix, Arizona(Avg Atmospheric Pressure = 14.7 psia)

LIQUID CONTENTS OF STORAGE TANK

Mixture/ Component	Month	Daily Liquid Surf. Temperatures (deg F) Avg.	Min.	Max.	Liquid Bulk Temp. (deg F)	Vapor Pressures (psia) Avg.	Min.	Max.	Vapor Mol. Weight	Liquid Mass. Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Vapor Pressure Calculations
Distillate fuel oil no. 2	All	73.72	66.49	80.95	71.22	0.0101	0.0080	0.0126	188.000			188.00	Option 3: A=12.1010, B=8907.0
Distillate fuel oil no. 2						0.0101	0.0080	0.0126		1.0000	1.0000	188.00	Option 3: A=12.1010, B=8907.0

Annual Emissions Report

Liquid Contents	Losses (tbs.): Standing	Working	Total
Distillate fuel oil no. 2	5.90	2.25	8.15
Distillate fuel oil no. 2	5.90	2.25	8.15
Total:	5.90	2.25	8.15

TANK IDENTIFICATION AND PHYSICAL CHARACTERISTICS

Identification

Identification No.:	EP16 through EPI13
City:	Gila Bend
State:	AZ
Company:	CWI
Type of Tank:	Horizontal Fixed Roof
Description:	LEACHATE STORAGE TANK

Tank Dimensions

Shell Length (ft):	25.0
Diameter (ft):	12.0
Volume(gallons):	20000
Is tank underground? (Y/N):	N
Turnovers:	21.0
Hot Throughput (gal/yr):	420000

Paint Characteristics

Shell Color/Shade:	White/White
Shell Condition:	Good

Breather Vent Settings

Vacuum Setting (psig):	0.00
Pressure Setting (psig):	0.00

Meteorological Data Used in Emission Calculations: Phoenix, Arizona (Avg Atmospheric Preassure = 14.7 psia)

Mixture/ Component	Month	Daily Liquid Surf. Temperatures (deg F) Avg.	Min.	Max.	Liquid Bulk Temp. (deg F)	Vapor Pressures (psia) Avg.	Min.	Max.	Vapor Mol. Weight	Liquid Mass Fract.	Vapor Mass Fract.	Mol. Weight	Basis for Calculations
Landfill Leachate	All	73.72	66.49	80.95	71.22	0.0037	0.0037	0.0037	100.000				
Leachate (Generic)						1.0000	1.0000	1.0000		0.0200	1.0000	100.00	Option 1
Water										0.9800	0.0000	18.00	Option 1

Annual Emissions Report

Liquid Contents	Losses (lbs.) Standing	Working	Total
Landfill Leachate	2.27	3.66	5.93
Leachate (Genetic)	2.27	3.66	5.93
Water	0.00	0.00	0.00
Totals:	2.27	3.66	5.93

Emissions from all eight tanks: 47.4 lbs/year
O.OO5 lbs/hour
0.02 tpy

Attachment 5: Information for BACT Evaluation

Flare Emission Factor Comparison

Pollutant	Proposed Permit Limit (lbs/MMBtu)	Average John Zink Test Data (lbs/MMBtu)	AP42 Emission Factors (1) (lbs/MMBtu)	SCAQMD BACT Limits (2) (lbs/MMBtu)	So. CA Project Emission Factors (3) (lbs/MMBtu)
NOx	0.060	0.022	0.117	0.060	0.054
CO	0.150	0.036	0.838	(4)	0.270
VOC	0.010	0.002	N/A	(4)	0.022
SOx	0.018	0.006	0.034	N/A	0.014
PMIO	0.011	0.009	N/A	(5)	0.024

Notes:
(1) Table 2.4-5, 1/95, based on methane gas HHV of 995 Btu/dscf.
(2) South Coast Air Quality Management District BACT Guideline for Landfill Gas Flares; rev. 10/7/88. Requirements shown reflect "Achieved in Practice or Contained in EPA Approved SIP" control level.
(3) From draft permit conditions limiting landfill gas flare emissions in permit currently under review by South Coast AQMD.
(4) Enclosed flare with >= 0.6 sec. retention time at >= 1400 deg. F and Auto Combustion Air Control.
(5) Knockout vessel.